THE VETERINARY JOURNAL
AND
Annals of Comparative Pathology.

FEBRUARY, 1882.

LYMPHADENOMA.

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I HAVE in these few lines endeavoured to sketch the more salient points of my observations of this disease in brief and numerical language, believing, as I do, that ingenuity in style of description denotes loss, not gain, to science. I consider that it is the duty of all friends of the profession—not only those who value its present position, but all who now recognise it as a bulwark against the disintegrating influences of its enemies, always to promote only that which will benefit the commonweal, not our immediate interests. Our object, therefore, should be, first, to avert the necessity of having the latter choice forced upon us; and next, to ensure that if ever it is forced upon us it should be made under unavoidable circumstances. But as I am bound not only to describe the facts connected with the disease as they are known to me, but to make clear to the reader the particular points in which my views differ from those generally entertained, I must to some extent discuss the points held by others, and show in what respects my conclusions differ, where they do differ, from those arrived at by previous observers. For these reasons I trust that it will be considered no ruse to obtain praise for myself or give disparagement to my contemporary, but a response compatible with my duty.

I now submit to the reader's indulgence the following rough outline of a hitherto much-neglected,* yet prevalent pathological condition :—

* So ill regarded is the literature and history of this disease, that even in "one of our leading Text-Books on human medicine" (says the *Lancet*), we find no mention of it.

(1) This disease was first prominently brought to the notice of the medical profession by the late Dr. Hodgkin,* and veterinarians have since been afforded opportunities for adding to its literature and pathology, by studying it as it occurs in the lower animals.

(2) As yet the occurrence of it has only been recorded in the horse, the ox, pig (Hedley†), and in man.

(3) No symptom is diagnostic of this condition, anterior to the death of the patient.

(4) The concomitant leukæmia on which so much stress has been laid by authors, is, from a diagnostic point of view, of no avail, as it is usually absent even whilst the disease is far advanced. Moreover, if the diagnosis of this disease were to rest on the *number* of the white cells in the blood, we would ask, What is the proportion of these to red corpuscles in normal blood? By some the proportion is stated at one to forty (Hirt); by others, one to five hundred (Malassez). If there be such a difference in what is known as healthy blood, it would be desirable to know the proportion of the white cells and red corpuscles in the condition known as Lymphadenoma.

(5) The history of the case as a help to diagnosis, will disclose, when the kidney is the seat of disease, that the animal during life passed turbid urine, sloughed portions of the medulla of the kidney having found exit through the ureters into the bladder, being ejected *via* the urethra. In two cases of the disease this was all the history of them I received.

(6) The spleen is not exclusively the seat of the disease, almost every organ of the body having been noticed to participate in the peculiar process, but more particularly the lungs, the liver, the spleen, and the kidneys—organs rich in parenchymatous structure.

(7) In man and in the ox, Tuberculosis is very frequently associated with Lymphadenoma. In the former case, the authorities who aid and abet this opinion are—Drs. Hodgkin, Wilks, Moxon, Tibbits, Murchison, and others. In the latter, it has singularly been my experience to find almost every other case

* Med. Chir. Trans. 1832, vol. xvii. p. 68.
† VETERINARY JOURNAL, May, 1881, p. 320.

of the disease I have examined associated with tubercle in the same or other of the internal organs.

(8) The most typical cases of the disease which have fallen under my notice having been those in which the kidney was affected, I shall confine my remarks here, to a great extent at least, to the changes produced in that organ in particular, mentioning the others by way of casual and general reference only.

(a) External examination of the changes wrought in any organ by this disease shows that organ to be nodulated on its surface; and an organ in this condition has not inaptly been likened by some observers to a sack stuffed with nuts. And this is no exaggeration, as only recently we had the pleasure of receiving a communication from the pen of Mr. Hedley, M.R.C.V.S., of Ireland, who recorded a similar case in the spleen of a pig,* where the last-named organ "looked very like a large number of chestnuts tightly packed into a bag."

(b) A naked-eye examination of an organ affected with Lymphadenoma also shows it to be covered on its surface with patches of slimy-looking lymph,† doubtless due to the effusion of excessively large quantities of lymph-products wont to follow in the wake of this disease. Ocular acquaintance with this pathological condition militates against future inability to correct diagnosis.

(c) Section of an organ the seat of Lymphadenomatous change presents numerous pea-like bodies—the so-called *colloid bodies* of Oppolzer—scattered throughout the medullary and cortical portions (speaking of the kidney) of the lobules composing the kidney, the primary seat of these bodies being clearly in the medullary portion.

(d) Large *cysts* are sometimes seen occupying the entire medulla of the lobules comprising a compound kidney in the ox. These cysts, in my opinion, are always *secondary* to the pea-like bodies just described, and their formation may probably be explained thus: When the larger nodules, or pea-bodies, in their multiplicative process, have acquired considerable dimensions, and the exudation from the surrounding congested vessels has

* VETERINARY JOURNAL, May, 1881, p. 320.

† This appearance being denoted in India by the word *Lujjha*.

not become organised so as to circumscribe and stay the further growth of these bodies, but has been absorbed, then they enlarge many times their original size, and as they enlarge, in the process of expansion they induce a corresponding amount of pressure on the blood-vessels of contiguous parts, and ultimately, by cutting off the nutrition in these parts, assist and hasten their disintegration, death, and casting off, or *slough*, being themselves replaced by large cavities or *cysts* in the structure of the organ they once invaded.*

(e) Some of the larger nodules, and they are often larger than a pigeon's egg, are usually *encapsuled*, and in the centre of each is present a *stellate medullary space*. The *capsule* results from the organisation of the effused plastic lymph into the immediately adjacent structures—the effusion here taking place in order to relieve the tension in the blood-vessels induced by the pressure thrown upon them from peripheral enlargement of the nodule.

The *medullary space* seen in lymphadenomatous nodules is very differently induced to the central degeneration, softening, liquefaction, and absorption met with in the nodules of Tubercle. The only appearance which approximates our own observations of this condition of things, is that seen in Professor W. Williams' First Edition of Veterinary Medicine, to which the reader's attention is specially directed.

In the interior of some of these medullary spaces may be found a thin, puriform liquid, much resembling purulent fluid, but which, when placed under the microscope, is seen to consist of shrivelled cells, granular débris, shreddy matter, cholesterine crystals, and an opaque fluid.

(f) The smaller nodules usually remain inseparably connected with the surrounding healthy structures, and bisection shows no *medulla* in their interior. It is obvious, then, that the medullary space results only as a consequence of active peripheral growth in the nodule itself. The peculiar pea-body of Lymphadenoma, like the mash-melon, "bursts" in its centre when ripe, and this is practically the *stellate medullary space* of lymphadenomatous

*We have reason to believe that this condition is more marked in the lower animals than in mankind, as we can trace no evidence of these bodies growing to such dimensions in the literature of human pathology.

growth. Not so in tubercle. Here it is a process of specific degeneration, characterised by products of active inflammatory disorder. Whereas in Lymphadenoma, we have just seen, it is a passive and a formative process, unattended by all active inflammatory change.

The production of the *capsule* and the *cyst* also needs no other explanation. The former *(capsule)*, as I have just described, results under quite distinct conditions:

1. From pressure and effusion of lymph into the surrounding part. 2. From absence of *degenerative* action and the presence of *formative* material in the lymph effused.

The latter *(cyst)*, as I have also just explained, is due to a passive *slough* in the process of "budding" of the nodule, and a cavity is the result. Not so in the formation of a true phthisical cavity. Here it is the result of an active and specific inflammatory change, induced by a specific cause, and the parts are "scooped out," as it were, from the neighbouring structures, not shot out as an outgrowth of structure, like a flower in budding. In the one it is absolute dissolution of the tissues of the part; in the other, it is a mere shedding in the part, like the petals in a flower. The difference between the two processes is as distinct as is the shedding of *temporary* teeth at puberty, from a similar shedding of *permanent* teeth as the result of caries due to specific change, as in Syphilis.

Cyst-formation in Lymphadenoma, especially in parenchymatous organs, is favoured by an apparent immunity of lymphadenomatous structure to calcareous change, and consequent want in the power to arrest its rapid proliferation, increase, and expansion amid the tissues of the organ in which it has chanced to be developed.

(g) Structures near to the lymphadenomatous nodules are in some cases much darkened from venous congestion, due to the *pressure* which is necessarily occasioned in the process of expansion of the nodules, consequent on peripheral proliferation. It may be well to repeat that it is characteristic of the disease, that though the structures adjacent to the peculiar pea-like bodies are in some cases congested as the result of venous tension, yet acute inflammatory disintegration is in no case engendered so as

to give rise to the retrogressive changes (purulent discharges) so characteristic of Tuberculosis.

(h) Professor T. Walley, M.R.C.V.S. of Edinburgh, considers, as a characteristic pathological feature of Lymphadenoma, the presence of *stellate hyperæmia* in the centre of each pea-like body just described, and to corroborate this he tells us that in one case he succeeded in injecting one of these bodies by means of an injecting syringe and colouring fluid. I regret to be obliged to have to differ with a professor who has devoted so much time and attention to this interesting disease, but still we cannot resist the conclusions arrived at by actual observation, and I must here state that, in differing with him, I do so for two obvious reasons:—(1) It is the *exception*, not rule, to meet with the alleged characteristic hyperæmia of a lymphadenomatous nodule. (2) Capillaries, and indeed small arteries and veins, may be found embedded in a mass of tubercle, yet can these be regarded as in any way characteristic of tubercle? If we do not regard them as such in the case of tubercle, we certainly cannot lay so much stress on their presense in Lymphadenoma. We must therefore come to the conclusion that the vessels met with here, as in the other, are either the vessels belonging to the original tissue, or vessels which have been developed in lymph or other product in which the peculiar disease-change occurred.

(i) Dr. Green* maintains that caseation and calcareous degeneration never result in association with lymphadenomatous change, although several cases, both in man and the lower animals, showing these changes, have been actually demonstrated. It depends for the most part on the rapidity or non-rapidity of structural growth in a lymphadenomatous mass, and on the relative proportion of its cellular elements, whether caseation with subsequent calcification will or will not result. In the smaller nodules, for example, where the growth is slower, and its structure less cellular and therefore firmer, caseation cannot and does not take place. But if we examine now any of the larger nodules, where its growth has been a rapid one, and where its cellular elements are necessarily in great excess, then we discover that caseation does follow, being itself ultimately replaced by

* "Pathology and Morbid Anatomy," by Dr. Green, p. 146.

calcareous matter, or rather infiltrated with it. It is in the smaller nodules alone, then, that caseation is usually absent, being more readily developed in the larger, more cellular masses, because caseous change is favoured by abundant cell-formation, and retarded by a deprivation of it.

(k) Microscopically, the disease is seen to consist in a hyperplasy of retiform connective tissue, with an increased deposition of lymphoid cells.

(9) The pathology of Lymphadenoma.—It is when we desire to assign to the *pathology* of disease a distinct and definite significance, that difficulties insuperable present themselves. Beyond saying what it is *not*, it becomes nearly impossible, with the present amount of absolute knowledge regarding the disease, to lay down in bold terms what the pernicious quality affecting the particular structures of its recipient, and destroying them, consists in. That the disease is not due to the intervention of any specific, *living* thing, but arises from a particular combination of circumstances to be yet determined, is evidenced by its possessing no qualities which are peculiar to specific disease. It cannot be inoculated; it runs an indefinite, insidious course, and it is not characterised by any period of "incubation," or a period which indicates the introduction of living, poisonous material into the blood, and manifests the action of the same upon the several functions of its recipient by certain constant and well-recognised symptoms—rigor, pyrexia, and all the rest of it.

LARYNGISMUS PARALYTICA ("ROARING").

BY GEORGE FLEMING, F.R.C.V.S., ARMY VETERINARY INSPECTOR, WAR OFFICE.

(*Continued from page* 12.)

THE larynx receives its motor nerve-supply on each side from two sources—the superior laryngeal and inferior laryngeal nerves. The former only stimulates the contraction of two muscles—the crico-pharyngeal and crico-thyroid, while the latter goes to all the intrinsic muscles—dilators and constrictors: the

terminal divisions of each recurrent being alike distributed to the posterior and lateral crico-arytænoid, and the arytænoid and thyro-arytænoid muscles of each side, as well as to the subglottic mucous membrane. It must be noted that the recurrents are sensory-motor nerves, the motor filaments passing to the muscles, and the sensory filaments to the mucous membrane inside the larynx below the glottis. It has long been remarked that it is often very difficult, if not impossible, to make "roarers" cough, by compressing the upper part of the windpipe adjoining the larynx; this is probably owing to the partial or total loss of sensation, due to diminished or lost function of the nerve. The superior laryngeal is also a mixed nerve—motor to the two muscles, and sensory to the mucous membrane of the glottis, which it endows with extreme sensibility. Therefore it is that, though the lower part of the larynx may be much less impressionable to irritation or injury in a "roarer" than a "sound-winded horse," yet its susceptibility to irritation at the upper part of the glottis may be as acute as ever, as the superior and inferior laryngeal have an independent origin; hence liability to ordinary cough, etc., is not diminished, but perhaps increased.

When the conductibility of the recurrent of both sides is completely suppressed, the aperture of the glottis is always the same; because, owing to the nerve supplying both dilators and constrictors, the dilating and constricting powers of the muscles are entirely gone. The vocal cords, under such conditions, no matter whether the paralysis is of long or short duration, must always occupy the same position, owing to the fact that there is no agency by which they can be moved from it. But it is very different with simple paralysis of the dilator muscle, when the several antagonistic muscles still retain their contractility. If the paralysis of the dilator continues very long, the power of the constrictors begins to tell, and the vocal cords are gradually drawn inwards towards the middle line, as already mentioned, until there may be only a narrow linear fissure between them, and through which the air has to pass. Owing to the fact that after paralysis of the dilator the constrictors and tighteners of the vocal cord are alone able to contract, their action readily becomes excessive; and there being no opposing dilator, the

vocal cords, even after the action of the constrictors has ceased, remain more or less shortened, and do not return to their former position. In this way we get an ever-increasing constriction, until at last there is only a narrow chink left between the two cords; and as the stenosis is more or less acute, so the inspiratory noise and dyspnœa are increased when the animal is exerted, or even when at rest in most severe cases of double paralysis. In this way it is the vocal cords which produce the sound, not the arytænoid cartilage falling over the glottal aperture, as is generally supposed; this aperture being still further diminished by the pressing downwards of the relaxed cords by the entering columns of air.

Schech's experiments on dogs, as described by Reigel, made to demonstrate the functions of the nerves and muscles of the larynx, are very valuable in assisting us to arrive at just conclusions as to the mode of production of the noise in "roaring." The results are summed up in the following terms: After division of both the dilator muscles, the vocal cords pass beyond the ordinary position inwards, towards the median line, and lose the power of separating on inspiration; but the full median position and continuous dyspnœa do not immediately make their appearance, and the power of narrowing the glottis, as well as the vibratory functions of the vocal cords, is undisturbed; so that the voice or bark remains intact. As a rule, the operation was immediately followed by considerable dyspnœa, but this soon disappeared; and Schech was of opinion that it was the result of the constriction of the glottis, which takes place immediately after the operation, and which, again, necessitates deeper and more frequent respirations. In this way, there arises a difference of tension in the columns of air above and below the glottis, the vocal cords approach still nearer to each other, and thus the entrance of atmospheric air is still more impeded. The abatement of the dyspnœa soon after the operation on animals, is due, on the one hand, to the fact that the respiration gradually becomes quieter, and on the other to the fact that the creature soon becomes accustomed to the hindrance in breathing; though it is assumed that the constrictor of the glottis never exerts its power suddenly, but only after a

certain period. The dyspnœa and stridulous inspiration make their appearance, however, immediately the animal attempts any sudden and violent exertion.*

In one-sided paralysis of the larynx, or paralysis of only one dilator, which, as I have already asserted, is the rule in "roaring," we have, of course, a modification or diminution in intensity of the symptoms to what is witnessed in double paralysis. Respiration, or rather inspiration, is not so much impeded, even when the antagonistic action of the constrictor is fully developed; because a sufficient quantity of air for ordinary respiration can always pass in and out of the merely one-sided narrowed glottis.

Symptoms.

The symptoms vary very much, according as we have to do with the disease in its earlier stages, when the vocal cords still remain in what may be termed the normal position; or, as in the further course of the malady, we have sooner or later to do with a secondary contraction of the constrictor, this contraction not always making its appearance at the same stage of the paralysis.

When the paralysis is complete, the constrictor gets the sway in a comparatively short time, and the respiration assumes different degrees of intonation during inspiration, from a faint siffle to a loud whistle or shrill croupous scream. In incomplete paralysis the vocal cords, naturally, will not be drawn either so quickly or so strongly towards the middle line, because some of the fibres of the affected dilator are still active. For there can be no doubt that when the mischief is due to the recurrent nerve, only certain of its fibres may have their conductibility destroyed, and under special conditions it is only those which supply the dilator. In such circumstances the "roaring" may be comparatively slight, and remain so for a long period; though it is almost certain to increase in loudness, if it does not disappear, as time goes on; while the dyspnœa also increases.

There are three kinds of dyspnœa: inspiratory and expiratory, and mixed or compound, when we have both. It is the first

* Experimentelle Untersuchungen über die Functionen der Nerven und Muskeln des Kehlkopfs. Wurzburg, 1873.

which is characteristic of "roaring," for the expired air drives the approximated vocal cords apart, without any need of muscular aid from the larynx; but a forced effort at inspiration will contract or close the glottis, unless it be held open by muscular action.

In the condition of the larynx which produces "roaring" we have, therefore, stricture of the glottis due to paralysis of the dilator or dilators, and it is this peculiarity which has compelled me to coin a designation—*Laryngismus paralytica**—which might well and clearly define it, and distinguish it from the far less common causes of sonorous respiration, in which we generally have mixed or compound, less frequently expiratory, dyspnœa—a very distinctive characteristic.

In the slighter cases of "roaring," in which the left dilator muscle of the larynx is only slightly involved, the respiration is not much interfered with, as the left vocal cord has not sufficiently approached the middle line of the glottal opening to offer any great amount of obstruction to the entrance of air; though the diminished aperture it makes is enough to produce a varying intensity of sound in inspiration.

But in the more advanced cases, in which all the intrinsic muscles of the left side are involved, and, if the paralysis is double, those of the right side also, respiration is then very laborious and distressing to the animal when made to undergo severe exertion, owing to the marked constriction of the glottis, and which many, if not all, of the inspiratory muscles are brought into forced action to overcome. All the efforts employed, however, are not sufficient

* I am aware there are those who object to new technical terms, and prefer the groom and farrier's grotesque and unmeaning *lingo* of a century ago; and yet such persons do not hesitate to declare that they belong to a scientific and learned profession. It would probably be futile to argue with them that scientific men are compelled to coin and employ terms which are comprehensible to their colleagues over all the world, because they are derived from the classical languages which educated men generally are supposed to understand, but of which the illiterate groom and farrier know as little as they do of the morbid conditions to which these scientific terms are applied. We leave these inconsistent objectors to revel in the employment of such terms as "gripes," "broken wind," "roaring," "thrush," "sandcrack," "quittor," "ringbone," "side-bone," "pole-evil," "groggy," "weed," "scouring," "grease," and the multitude of other meaningless and comical words which were invented in the dark ages of farriery. Veterinary medicine now ranks as a science, and should discard these relics of barbarism.

to carry the necessary amount of fresh air through the narrowed glottis in a given space of time. Consequently, a longer period than is normal is required for inspiration, while the expansion of the thorax, wide and energetic at first, appears to become less and less with each inspiratory effort, and the nostrils are spasmodically dilated to their utmost through the contraction of the levatores alæ nasi (which are dilating inspiratory muscles, like the posterior crico-arytænides of the larynx) ; for without this muscular action the nostrils would tend to close, from the rapid rarefaction of air in the nasal cavities. Expiration is comparatively easy and quick, and this disproportion of the strength expended in the two acts constitutes the peculiar characteristic of the inspiratory dyspnœa which marks advanced cases of "roaring;" hurried respiration is by no means characteristic of it. In pulmonary emphysema, asthma, or, as it is vulgarly called, "broken wind," the converse is the case. It is the very essence of the self-acting functions of the vagus nerve to correct or compensate for impediments in the respiration, by modifications in the mode of breathing. So it is that if the lungs are imperfectly filled, the inspiratory effort will be longer and stronger, as in advanced "roaring;" but if they are imperfectly emptied, the expiratory effort will, on the contrary, be lengthened and strengthened, and even spasmodic, as in "broken wind."

Diagnosis.

The stenotic murmur, siffle, whistle, or "roar," is, as has been said, most marked during inspiration, and the loudness is in proportion to the intensity of the stenosis ; in expiration there may be a trifling noise produced by the column of returning air pushing up and to one side the relaxed and obstructing vocal cord. In advanced cases of roaring, when the horse is distressed for breath, the hand placed upon the larynx feels a kind of thrill or vibration ; and during each respiratory act it appears to move up and down considerably, probably owing to the difference in atmospheric pressure above and below the impediment formed by the vocal cords. In obstruction elsewhere, and especially in the trachea, this is not observed, and, as has been said, the dyspnœa generally takes place, and the respiratory noise is heard,

in expiration as well as inspiration. This is particularly the case where we have obstruction due to the effects of inflammation of the mucous membrane lining the air-passages, a condition which may be associated with roaring, though not necessarily. The noise occurring during inspiration, either while the horse is undergoing severe exertion, or on a sudden start, fixing the source of the noise in the larynx by auscultation, and other means well known to veterinary surgeons, suffice to enable the examiner to satisfy himself as to the presence of Laryngismus paralytica. It is often remarked that a horse which emits the characteristic sound during moderate exertion, will cease doing so when that exertion becomes severe and continuous. I think this is to be accounted for by the fact that the disease is not very advanced, the dilator being only partially involved; and the healthy muscular fibres still remaining, as well as those which are commencing to undergo atrophic change, are stimulated to their utmost degree of contractility by the urgent demand for more air, and so erect the depressed arytænoid cartilage as to dilate the glottis to something like its normal width.

It may also be remarked that what is called "grunting," has, in reality, no immediate relation to "Roaring," though the position of one or both vocal cords may favour the production of a grunt, which is always emitted in *expiration*. Grunting is produced by the forcible *expulsion* of air between relaxed or approximated vocal cords.

Origin.

I have stated that chronic "Roaring" is symptomatic of a neuropathic disease, the muscular degeneration of the larynx being simply a result of the deficient nerve-stimulus. But the question then arises as to the reason for this defective stimulus. Clinical observation and experiment have shown that anything which impairs the conductibility of either of the recurrents—be it right or left—in any part of its course from its point of origin within the thorax, upwards to the larynx, will lead to paralysis of the muscles it supplies; and the paralysis, again, causes dyspnœa and inspiratory stridor. In the days when blood-letting from the jugular was common, "Roaring" was not at all an in-

frequent result of inflamed vein or Phlebitis, and was attributed, wrongly, to deranged circulation in the upper part of the neck.

Defective or peculiar conformation has been associated with "Roaring," but as in nearly every case only one side of the larynx is affected, surely if conformation had anything to do with it, we might expect both sides to share in the mischief.

The affection has been considered hereditary by many writers; but it may be asked why the left nerve should alone be always involved, and not the right, in this hereditary tendency. In the face of the fact that the affection in many instances is transmitted apparently from parents to progeny, I do not dispute that hereditary tendency may not have something to do with its production.

The cause for the left side of the larynx being so constantly the seat of the muscular change, has been ascribed by the neuropathists to the different origin and course of the left recurrent nerve. As is known, the right nerve is given off from the pneumogastric low down and near the opening into the chest, and immediately below the axillary artery; while the left nerve springs from the same trunk, but near the root of the lungs, and bends round behind the arch of the aorta, between which and a mass of bronchial lymphatic glands it passes to beneath the trachea, where, like the right nerve, it gives or receives branches from the principal cardiac nerves; and in this way both recurrents are mixed, at a greater or less distance from their commencement, with those branches of the sympathetic which collectively constitute the tracheal plexus. In the lower part of the neck, the left recurrent is more superficial than the right; and this anatomical fact has led several good authorities to suppose that the disease was due to the compression exercised by the collar, in draught. But they overlooked the fact that the affection is perhaps as common in riding-horses, which never wear collars, as in draught horses

The pulsation of the aorta is imagined by other writers to cause loss of function in the left recurrent; but surely if this was so, "Roaring" would be general among all horses in every part of the world; whereas it is not very common even in Western regions, and in the East it is very rare.

The only difference between the right and left recurrents, is that the latter is longer, and it passes between the aorta and the

bronchial lymphatic glands, which lie close upon it. In this anatomical difference must be sought not only the cause of chronic "Roaring," but also the reason why it is always found associated with atrophic or degenerative changes in the muscles on the left side of the larynx. Bouley, in 1825, made the discovery of the left recurrent being compressed by these glands; and in that year, Dupuy, to whom we have already referred, in striving by clinical and anatomical observation, as well as by experiment, to solve what is still, it would seem, considered a mystery, astutely imagined that loss of function of the nerve might depend upon its relations, at its origin, with the bronchial lymphatics. And Ferguson in 1838, and Lafosse in 1846, found this nerve damaged by pressure or disease in these glands. F. Günther published a case in which he found an enlarged thyroid gland on the left side, which caused compression of the recurrent nerve, and consequent atrophy of the dilator muscles of that side; the horse had been a confirmed "roarer." Professor Bassi, of Turin, has not only produced the "roaring" by ligaturing the left recurrent, with subsequent atrophy of the laryngeal muscles on the same side; but in a chronic case he found an enlarged lymphatic gland towards the eleventh and twelfth rings of the trachea, on the left side, which compressed the nerve; the muscles on the left side of the larynx were atrophied. At a much later period, Professor Colin, of the Alfort Veterinary School, while agreeing that pressure from the collar on the left recurrent might produce paralysis of the left laryngeal muscles, yet entertained the suspicion held by Dupuy and others, that the proximity of the nerve to the bronchial lymphatics might have much to do with this paralysis and its accompanying inspiratory stridor.

In 1874, my friend, M. Zundel, the distinguished veterinarian of Strasburg, expressed the opinion that chronic "Roaring" might be the result of compression on the left recurrent nerve, by enlarged lymphatic glands at the entrance to the chest.

Trasbot, of the Alfort Veterinary School, who has made a special study of Strangles, observing the great frequency with which "Roaring" followed that disorder, was led to think that the notion promulgated by Bouley and Dupuy, and resuscitated —unconsciously, I fancy—by Colin and Zundel, afforded, after

all, a correct explanation of the morbid condition. Making many autopsies of horses that had been "roarers," he invariably found that the left recurrent nerve, surrounded by indurated, enlarged, or altered bronchial lymphatic glands, or compressed between them and the aorta, was atrophied from its entrance among them, and in some instances had almost disappeared, or was reduced to a thin grey filament throughout its entire length up the neck.*

On examining, at intervals, the bodies of four horses that had been bad "roarers," I have in each case found alterations in structure and volume of the left recurrent; in three cases in the portion within the chest, and in the other throughout the course of the nerve. In all the horses the bronchial lymphatic glands were greatly enlarged and indurated.

From anatomical, physiological, and pathological experience, then, I think we are warranted in coming to the following conclusions with regard to Laryngismus paralytica, or chronic "Roaring:"

1. That in nearly every, if not in every, case, it is immediately due to paralysis of the left dilator muscle of the glottis, and in many instances also to a greater or less extent of the left constrictors of the glottis: this paralysis being succeeded by numerical atrophy and fatty degeneration of the muscular fibres.

2. That the muscular paralysis is due to partial or total loss of function of the left recurrent nerve.

3. That the loss of function of the left recurrent nerve may be owing to compression, injury, or disease occurring to it, or taking place in its immediate vicinity, and on any portion of its course, but in the vast majority of cases within the thorax.

The great frequency with which the dilator of the glottis is apparently alone involved, may be owing to its depending upon a larger supply of nerve-stimulus. And it is also probable that when the entire trunk of the nerve is exposed to compression, some of the nerve-elements will be much, some slightly, and others not at all compressed; though there will generally be more or less atrophy of the nerve, especially at the seat of compression. It must therefore happen that the special twig of the

* Archives Vétérinaire, 1879.

left recurrent which supplies the dilator, and which is the largest of those passing to the laryngeal muscles, will have its conductibility destroyed.

The cause of this loss of function of the recurrent nerve within the chest is undoubtedly due to compression; and this, again may be produced by several causes. Since the commencement of this century at least, it has been a matter of common observation among veterinary surgeons and horsemen, that Strangles, Influenza, colds and coughs, accompanied by tumefied lymphatic glands, Pneumonia, Bronchitis, and other diseases of the chest, are often followed by "Roaring."

The very close proximity of the left recurrent nerve to the bronchial lymphatic glands, and the "sympathy," if we may use the term, between such glands when one is inflamed, and especially if they communicate; the relatively short distance between this nerve and the lung and pericardium,—all place it in a position of danger when these are involved in inflammation, while the right is comparatively safe. In the few cases of this form of disease described as occurring in mankind, there have been discovered after death in the majority of them either mediastinal tumours, aortic aneurisms, pericardial exudations, or affections of the apex of lung.*

The compression produced by swollen or indurated bronchial lymphatic glands, during and after Strangles, Influenza, etc., the proximity to inflamed lungs or pericardium, and all the other causes enumerated, may easily alter the nerve in size or structure, and this alteration may be of such a character that its normal function may never be regained. It must not be forgotten, that in support of this opinion, the maladies which are most frequently followed by "Roaring," are just those most prevalent in coun-

* Reigel describes the case of a boy six years old, who was admitted to hospital suffering from the most extreme inspiratory Dyspnœa, though the voice was not impaired. A short time after the performance of tracheotomy, he died of an intercurrent affection. A *post-mortem* examination showed that both recurrents—the right above the apex of the lung, and the left above the aortic arch between the trachea and œsophagus—had become enveloped in dense connective tissue; many of the nerve-fibres had become atrophied and undergone fatty degeneration, others were normal. The crico-arytænoidei postici were the only muscles which were markedly atrophied.—German Clinical Lectures. New Sydenham Society. 2nd series, p. 332.

tries where this grave sequel is most common. In Eastern countries, where they are unusual, "Roaring" is rare among horses.

The more artificially horses are kept, so the more predisposed must they be to "Roaring;" and of all the artificial causes, hot and close stables is undoubtedly the most active—simply because it is in these we have diseases of the air-passages most frequently generated. Horses living in the open air are rarely, if ever, "roarers."

In the extremely infrequent cases of double paralysis of the dilators of the glottis, and even in the as rare instances of simple or left-sided paralysis where no perceptible lesion in the thorax or course of the recurrent nerve can be traced, the affection may be due to a central cause—disease of the central nervous organ, as bulbar paralysis; for just as the pneumogastric nerve is effected at its periphery, so may it and one or both of the recurrents sympathise, either wholly or in part, with such disease.

Prognosis.

The prognosis in cases of well-defined Laryngismus paralytica must necessarily be generally unfavourable, especially when the cause or causes are not removable. When the paralysed muscle has undergone numerical atrophy or degeneration, or the recurrent, or at least that portion of it which supplies the dilator of the glottis, has degenerated, the cure of the paralysis cannot be anticipated. The same may be said for those almost exceptional cases in which the affection starts from the central organ, and the pneumogastric and recurrent nerves are involved in a pathological process at their point of origin.

"Roaring" due to ephemeral causes, sometimes disappears suddenly or gradually; but then neither muscle nor nerve has undergone change. Medical treatment, judiciously and timeously resorted to, may in many instances either prevent or cure the affection.

Treatment.

It may safely be asserted that hitherto the treatment adopted for the removal of chronic "Roaring" has been largely empirical, from the fact that its pathology has not been understood, nor the

cause upon which the muscular atrophy depended ascertained. The throat has been blistered, and cauterisation sometimes lauded as a remedy. But the success which has attended this heroic treatment has been due, I infer, to the circumstance that the noise has been produced by thickening of the laryngeal or tracheal mucous membrane, owing to inflammation—not laryngeal paralysis at all; and the counter-irritation has led to resolution. There is every reason to doubt whether Laryngismus paralytica has ever been successfully combated by these means.

It is only by fully comprehending the pathology and etiology of disease that we can hope to prevent or cure it; and it is by acting on the views which are now given as to the nature and cause of Laryngismus paralytica, that rational remedial or prophylactic measures may be successfully employed.

Without comprehending the true pathology of the disease, Percivall, in his Hippopathology, recommends the administration of iodine internally, as well as its application externally, or both. This substance was at that time almost a new drug, and was greatly in vogue for a multiplicity of disorders of the most diverse character. Unconsciously he was following the chief indication in the way of treatment.

If the pressure to the nerve can be removed, provided neither nerve nor muscle has undergone serious alteration, the roaring will of course cease. But if the source of mischief cannot be got rid of, then only treatment of symptoms can be adopted. Acting on what I consider to be the well-founded supposition that the compression exerted by the thoracic lymphatic glands is generally the cause of "Roaring," Zundel has been in the habit of administering preparations of arsenic and iodine, and he reports having had excellent results. Trasbot gives iodide of potassium with the same object, and also as a preventive. For instance, in Strangles, Bronchitis, and other diseases likely to be followed by "Roaring," he gives the horse this drug in eight, ten, or twelve-gramme doses in gruel twice a-day, for the first four or five days; then the quantity is progressively diminished, so as to finish on the tenth day by two doses of four grammes each. He also speaks very favourably of this treatment.

In recent cases of "Roaring," as well as in anticipation of it, I would certainly recommend the employment of iodine internally in one of its most active forms, as well as its application externally to tumefied lymphatics in the neighbourhood of the larynx, and on the skin at the entrance to the chest.

In cases of Roaring in which there is reason to believe that the muscle and nerve had not undergone serious alteration, I would most strongly urge recourse to electricity; and for this purpose would advise the employment of the Faradaic, rather than the constant current. This Faradisation may be applied percutaneously, directly over the posterior crico-arytænoid muscle, or to the recurrent nerve; either or both ways may be adopted, and the application may be made once or twice a day for a few minutes at a time, continuing it for two or three weeks, and only allowing the horse to be gently exercised and moderately fed while under treatment. As an adjunct to all this, the hypodermic injection of strychnine in the region of the larynx may be very valuable. Indeed, I would recommend this injection as a test of the degree of contractility of the affected dilator, and as giving an indication of the likelihood of treatment being beneficial. The injection should be made, and the horse put to severe exertion in a few minutes afterwards. If the Roaring is diminished, then it is a sign that the muscle still retains at least a portion of its contractility, and the treatment I suggest may either wholly or to a great extent restore it.

I have resorted to electricity, or rather Faradisation, in several cases in which the Roaring had not been long observed, and in all with more or less success, generally administering either the iodide or bromide of potassium at the same time.

The last successful case—treated without the potassium, however—was that of a valuable hunter belonging to a friend, Colonel Stotherd, Royal Engineers, then stationed at Belfast (now in Dublin), about two and a half years ago. The veterinary surgeon in attendance on the horse had pronounced him a "roarer," and tried all the treatment he thought possible, but without any diminution in the noise. The colonel then consulted me, and I advised him as to the course to be pursued. Unfortunately I had mislaid the correspondence relating to the case, and was therefore

compelled to write to him for a brief account of it. His reply is dated October 25th, and he says: "The noise was made in inhaling; it came on suddenly with a very bad cold, and swelling of the glands of the throat. All treatment produced no effect. You then suggested Faradisation. This was carried out for twenty minutes, three times a week, with a small hand magneto-electrical machine, as used for the human subject. One pole of the machine was placed in contact with the throat, the other on the bottom of the windpipe, the poles being tied on; both points were wetted, care being taken to keep the front of the neck between them thoroughly dry. The machine was worked with long connections, from the adjoining stall. At first the horse did not at all like it, but latterly he made very little commotion over it; the pace at which the machine was turned, was regulated by the quietness or otherwise of the horse. My groom stood in the stall with him, and quieted him during the operation. The Faradisation was continued from about the beginning of May until the end of October, the horse being ridden by me and exercised regularly during the period. I noticed little or no improvement for a long time, but along the road he made no noise at the pace I generally ride—a walk or slow trot. When I began to hunt him in November he seemed to be very thick-winded; and though the rattling noise of roaring had disappeared, he made a good deal of noise—quite a whistle, as it is called: sobbing, puffing, and blowing when pushed into a fast canter—an ordinary hunting pace. This, however, gradually disappeared, and last winter (1880-81) he was quite sound, and could gallop any pace without anything different from a sound-winded horse. He was attacked in March, 1879, was Faradised between May and October, 1879, was rather thick in the wind in the winter of 1879-80, and quite sound in the winter of 1880-81. He was not Faradised after October, 1879, and remained perfectly sound up to the day of his death, which was on 1st September last, when he succumbed to obstruction of the bowels caused by a calculus."

Professor Günther, so long ago as 1845, attempted, and report says with some success, to get rid of the disagreeable sound and relieve the animal, by removing the arytænoid cartilage on the left side—excising and taking it away through an opening in the

trachea. But, as will be seen from what I have said as to the pathological anatomy of the affection, such an operation could only be attended with very partial benefit, and there must always be risk of foreign substances passing into the trachea in their way over the larynx towards the œsophagus. Günther must have been cognisant of this himself, for he subsequently endeavoured to remedy the disease by passing a seton through the left laryngeal ventricle—a strange notion, certainly; and as might have been anticipated, the horse died of suffocation, probably from tumefaction of the glottis.

DISEASE OF THE KIDNEYS IN A MARE.

BY J. DARBY, M.R.C.V.S., RUGBY.

On December 3rd I was called out to see a bay mare belonging to a neighbour. It was stated that since the previous day the animal had eaten no food. I found the pulse to be intermittent, and about seventy beats per minute; breathing regular; fæces hard and coated with mucus. The mare occasionally ground her teeth. The urine passed away continually, and apparently involuntarily. I was told that this latter symptom had existed for two years; in fact, since being injured, when covered. The animal did not seem to suffer pain. The next day, her appetite having improved, she was taken to work. The following morning, being again off her feed, she remained at home. On the 6th I saw her again, and was then of opinion that the heart was affected. The 7th and 8th I saw no alteration in the symptoms, but on the 9th her breathing had increased to forty a minute, the pulse being about 100. Shortly after, violent palpitations ensued, and the mare soon succumbed.

On making a *post-mortem* examination, I found the following lesions to exist:—The *heart* was considerably enlarged, the right auricle containing a large thrombus, which was just becoming organised; the *left kidney* had undergone extreme hypertrophy, the weight being *twenty-two pounds*. The capsule was separated from the internal structure, which had undergone almost entire

disorganisation, being one mass of pus and broken-down structure. The *right kidney* was also extensively diseased, but not increased materially in size. The *ureters* were both much thickened; the bladder had almost disappeared, and seemed like a continuation of the ureters. The *uterus* looked healthy, but contained four gallons of fluid, having a disagreeable odour, and an appearance which would render it hard to distinguish from milk.

Until I was called in the mare had been constantly at work, and on no occasion had she shown signs of illness.

ON A HORSE DISEASE IN INDIA KNOWN AS "SURRA," PROBABLY DUE TO A HÆMATOZOON.

BY G. EVANS, M.D., M.R.C.V.S., ARMY VETERINARY INSPECTOR, INDIA.

(*Continued from page* 333, *vol. xiii.*)

APPENDIX F.

Case 6.—Experimental.—Grey Mare. Aged 17. Regimental No. 1,867, of the 1st Punjab Cavalry.

September 29th, 1880. *Evening.*—The disease Surra having been transmitted by subcutaneous inoculation, as shown in Appendix D (case 4) and Appendix E (case 5), I was anxious to know whether it could be transmitted also by drinking the blood containing the Surra parasite. Accordingly, Colonel Maclean, commanding 1st Punjab Cavalry, was good enough to place this and another mare (case 7) at my disposal for the experiment. This mare is one of those to be cast soon for being old and worn out, but is in good health. Blood examined, and found free from parasites. The mucous membranes have none of the colour peculiar in Surra. Pulse 38, and temperature $100\frac{2}{5}°$ just before the experiment was made. This mare marched in with the regiment from Cabul a few days ago. She has not been exposed to the local influences which are supposed to induce the disease

Surra in this district, and is so much the better for a test experiment. Twenty-four ounces of blood was drawn from the jugular vein of case 4, and without any delay it was poured down the throat of this mare, fasting, by a horn. In taking it she coughed a great deal; some of it she spluttered back through her nose. I think about four ounces of blood was lost, and full twenty ounces went into the stomach.

September 30th. Morning.—Pulse 36; temperature 98⅘°. The blood was examined by microscope, and found normal.

October 1st. Morning.—Pulse 39; temperature 100°.

October 2nd. Morning.—Pulse 39; temperature 101⅕°.

October 3rd. Morning.—Pulse 48; temperature 100⅘°.

October 4th. Morning.—Pulse 40; temperature 99⅘°. The eyes becoming suffused. Blood examined, no parasite found. Has continued to feed well.

October 5th. Morning.—Pulse 44; temperature 102⅕°.

October 6th. Morning.—Pulse 56; temperature 103⅖°. Visible mucous membranes very yellow; slight œdema of the legs. Blood examined, parasites found swarming and very active, but many of them are much more slender and transparent than they are usually seen in advanced cases.

October 7th. Morning.—Pulse 64; temperature 103⅕°. Considerable œdema in all the legs; petechiæ on the membrana nictitans and vagina very marked; gait is weak and stiff—in short, she has all the characteristic symptoms of Surra well developed.

I was not able to continue my observations of this case.

Remarks.—No parasites found in the blood of this mare five-and-a-half days after she drank the Surra blood, but two days later they were found swarming in each drop. The outward symptoms characteristic of Surra appeared with the advent of the parasites. In this case, as in those inoculated, there was first a depression, and then an abnormal elevation of temperature, marking the transition period from health to disease, which did not follow the introduction of the pint of blood into the stomach so soon as it did the three drams under the skin.

Appendix F.

Table showing Variations in the Pulse, Temperature, and Blood, etc., of Case 6. Disease transmitted by drinking blood, 29th September.

Date. 1880.	Morning or Evening.	Pulse.	Temperature of Rectum.	Blood, etc.
Sept. 29.	E.	38	100¾	Blood normal.
„ 30.	M.	36	98¼	Ditto.
Oct. 1.	M.	39	100	Not examined.
„ 2.	M.	39	101¼	Ditto.
„ 3.	M.	48	100¼	Ditto.
„ 4.	M.	40	99¼	Blood examined. No parasite found. Eyes suffused.
„ 5.	M.	44	102¼	Blood not examined.
„ 6.	M.	56	103¾	Blood examined. Parasites swarming. Membranes very yellow. Œdema of legs.
„ 7.	M.	64	103¼	Parasites as yesterday. Much œdema of the legs. Petechiæ of the eyes and vagina. All the symptoms of Surra well marked.

Appendix G.

Case 7 (Experimental).—Dun Mare. Aged 9. Regimental No. 1,823, of the 1st Punjab Cavalry.

September 30th, 1880. *Morning.*—This mare was selected for experiment, like case 6, to know whether the disease may be transmitted by the stomach. She is in good health, marched in with the regiment a few days ago from Cabul, so she has not been exposed to the local influences, which are supposed by residents to lay the seeds of the disease in the horses during the hot season, to develop many weeks afterwards. She is to be cast for a severe lameness (Ringbone). Her pulse 36; temperature 100°. The blood is free from parasites, and appears in all respects normal. The mucous membranes are of normal colour, having no shade of the yellow characteristic of Surra. Twenty-four ounces of blood was drawn from the jugular of case 4, and administered as a draught without any delay. She coughed very little in taking it, but I think about four ounces were lost and full twenty ounces went into the stomach.

October 1*st*. *Morning.*—Pulse 36; temperature $99\frac{2}{5}°$.
„ 2*nd*. *Morning.*—Pulse 34; temperature $100\frac{3}{5}°$.
„ 3*rd*. *Morning.*—Pulse 35; temperature $100\frac{2}{5}°$.
„ 4*th*. *Morning.*—Pulse 35; temperature $99\frac{3}{5}°$. Fed well until yesterday, when she only took half her allowance of grain. All the visible mucous membranes are yellow with petechiæ.

October 5*th*. *Morning.*—Pulse 39; temperature $100\frac{3}{5}°$. Fed yesterday three-quarters allowance of grain.

October 6*th*. *Morning.*—Pulse 52; temperature 103°. Blood examined, many parasites found, but not swarming as they first appeared in cases 5 and 6. They are very active; most of them are more slender and transparent than usual in advanced cases. There is no œdema. The visible mucous membranes are very yellow with petechiæ well marked, especially the vagina. Fed three-quarters allowance of grain yesterday; thirsty.

October 7*th*. *Morning.*—Pulse 39; temperature $100\frac{3}{5}°$. Refused grain yesterday, but ate all the grass.

October 8*th*. *Morning.*—Pulse 36; temperature $99\frac{4}{5}°$. There is some œdema of the legs. Fed well yesterday, all the grain and grass.

October 9*th*. *Morning.*—Pulse 49; temperature 105°. Fed well yesterday.

October 16*th*. *Morning.*—Pulse 60; temperature; $103\frac{2}{5}°$. I was not able to see this mare during the past week. I find her greatly reduced in condition, though, I am told, she has fed little short of full allowance of grain, and all the grass. There is œdema of the abdomen and legs. Mucous membranes not so yellow, but very pale; anæmic. Blood examined, few parasites found; they were active. Observations of this case ceased.

Remarks.—The mucous membranes first showed the peculiar yellow colour as in Surra on the fifth morning after the Surra blood was taken, and the parasite was found on the seventh morning. The depression of temperature was only slight.

This case fully confirms the experiment of case 5, that the disease Surra, with its peculiar blood parasite, may be transmitted by drinking the blood of Surra, as well as by subcutaneous inoculation; also, that it takes longer for the virus to pass into the

circulation by drinking much of the blood than by injecting a little of it beneath the skin.

The four experiments together prove that the common idea of the seeds of the disease lying dormant in the system for many weeks is entirely wrong. When the disease is taken in the normal way, probably its incubative stage is never much over a week.

Appendix G.

Table showing Variations in the Pulse, Temperature, and Blood, etc., of Case 7. Disease transmitted by drinking blood, 30th September.

Date. 1880.	Morning or Evening.	Pulse.	Temperature of Rectum.	Blood, etc.
Sept. 30.	M.	36	100	Normal.
Oct. 1.	M.	36	99⅔	Blood not examined.
„ 2.	M.	34	100⅓	Ditto.
„ 3.	M.	35	100⅓	Ditto.
„ 4.	M.	35	99⅔	Membranes yellow, with petechiæ.
„ 5.	M.	39	100⅔	Blood not examined.
„ 6.	M.	52	103	Blood examined. Many parasites found.
„ 7.	M.	39	100⅓	Blood not examined.
„ 8.	M.	36	99¾	Ditto. Œdema of the legs.
„ 9.	M.	49	105	Ditto.
„ 16.	M.	60	103⅔	Blood examined. Few parasites found. Œdema of the abdomen. All symptoms of Surra well marked.

Appendix H.

Experiment with Surra Blood and Dead Parasites.

In the course of my examination of the Surra blood parasite, I noticed that it died with the blood, and soon afterwards dissolved, or disappeared somehow, so that it could not be found. I failed completely to preserve it for twenty-four hours as a microscopic specimen, with the blood, to send to friends interested in these organisms. In this respect it contrasted greatly with the bacteria family. Having succeeded in transmitting the disease to the two horses which had the living blood containing the parasite poured into the stomach, I was anxious to know whether the disease could likewise be transmitted by the Surra

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blood twenty-four hours after it was drawn, when the parasites disappeared from it. There was another question which I wished to prove at the same time. The dead horses have always been given to the jackals, etc., instead of being buried, and I am told the skeleton is often cleaned by them in one night. It is most probable that the jackals, after eating the Surra flesh (containing the blood), go to drink at the channels which supply the tank from which horses get water, and some of the blood would be conveyed by them to that water. Is the disease spread by that means?

October 8th, 1880.—The officer commanding 1st Punjab Cavalry was good enough to place at my disposal two healthy horses for this experiment—regimental No. 72, aged 18, and No. 302, aged 13, on the list to be cast for chronic lameness. The two marched in a few days ago from Cabul. There is not the slightest outward sign of Surra in them, and their blood is free from parasites. Yesterday morning blood was drawn from the jugular vein of grey mare, case 6 (Appendix F), and defibrinated; it contained the parasites of Surra innumerable in every drop, and very active. It was then thoroughly mixed with three times its bulk of water from the well, which the horses drink, and allowed to stand covered in the pharmacy until this morning. Twenty-four hours after it was thus treated I stirred it well up, and examined some of it by the microscope; no parasite could be found. It had no bad smell, or any sign of decomposition. Five ounces of the blood-and-water mixture were now added to thirty-five ounces of fresh water, and given as a draught to No. 72. Twenty ounces of the blood-and-water mixture were mixed with twenty ounces of fresh water and given as a draught to No. 302. Both animals were fasting.

October 18th.—Ten days have elapsed without any ill effects to these horses. They have no outward sign of Surra and no blood parasite. Judging from the incubative stage in the other horses, I suppose the result of this experiment is negative. I leave for Simla to-morrow, and request to be informed should one of these ultimately prove affected.

October 30th.—I have heard nothing more of these cases, therefore conclude they prove the negative. The failure goes a

long way to prove that the disease is communicated by the parasite, and not by any chemical change in the blood independent of the parasite, as is contended by those who disbelieve in the theory of living organic germs causing specific diseases.

Appendix I.

Surra transmitted from Horse to Dog.

October 5th, 1880.—A pariah dog and a bitch were inoculated in two separate parts of the neck by the hypodermic injection of two separate drams of blood containing the parasite, freshly drawn from the jugular of a horse suffering from Surra. They are also allowed to drink the blood and eat the flesh of a horse which died of the disease. The dogs are thin, but they appear in good health, and I could find no parasite in their blood, or anything abnormal. The bitch has a sucking pup about a month or six weeks old, in good health and free from blood parasites also; he has not been inoculated, and I have directed the mihtar in charge not to give him any blood or flesh. The mihtar himself eats the flesh of horses which die of Surra, after it is cooked and salted and peppered.

October 16th.—Blood of the dog examined: it contains a very large increase of white corpuscles, but no parasite could be found in three drops examined.

Very few parasites of Surra found in the blood of the bitch. I was about giving up the search before I found one. Her blood has also a large increase of white corpuscles. Both the dog and the bitch are more thin than they were, and they look miserably ill, with a catarrhal discharge from the eyes; but I do not find the mucous membranes yellow, nor any petechiæ such as horses have in Surra. The blood of the pup is swarming with active Surra parasites; he is thinner too, for he gets little milk from his mother, but he is playful, and shows no sign of illness. The mihtar in charge declares that the pup has had no blood or flesh, nothing but his mother's milk; but I have strong reason for doubting that, and this experiment alone cannot be relied upon to prove that the parasite may be transmitted through the mammary gland with milk, though it may ultimately serve to corroborate future experiments in that direction.

October 22nd.—Arrived at Simla this morning with the pup. Principal Veterinary Surgeon F. F. Collins called in the afternoon, and saw the parasites in the blood in countless numbers, but they are not so active as they were.

October 23rd.—Mr. Collins called again this morning, and found every red corpuscle of the blood quivering from the motion of the parasites—there seemed, as he remarked, as many parasites as there were red corpuscles, but only few of them pulled the corpuscles about. Mr. Collins noticed them separating the corpuscles from the others. It occurred to me that the cold at Simla was the reason for their inactivity. At Dera Ismail Khan the metal of my microscope felt uncomfortably hot very often when I was working at it, whereas here it feels cold. I, therefore, put a slide with the blood this morning upon a heated plate under the microscope, and it had a wonderful effect upon the parasites in making them more active.

October 25th.—Veterinary Surgeon Poyser, of the Carabiniers, called to see the parasites. Several drops of fresh blood were examined, but very few were found—only about ten or fifteen in each drop—and they were very inactive, but larger in size than they were on the 23rd.

October 26th.—Dr. Lewis, special assistant to the Sanitary Commissioner, and one of the best authorities upon blood parasites, called this morning, and examined the parasites, which are in number and appearance as they were yesterday. He thinks they are of the same class or family of organisms as what he found in the blood of rats, and described in the "Microscopical Journal," January, 1879, though they do not appear exactly the same. He believes they are of the lowest order in the animal kingdom.

October 30th.—This morning I met Surgeon General Cuningham by appointment at Dr. Lewis's laboratory for a further examination of these parasites, but though six drops of fresh blood from the pup were examined, not one could be found. The dog is growing and improving in condition; he shows no sign of ill health. As I am under orders to proceed to Assam as soon as I can to investigate a disease there, I have handed the animal over to Dr. Lewis, who takes a deep interest in this

investigation, and he will watch whether the parasites reappear, and if they do he will study them.

November. 3rd.—Dr. Lewis reports: "Many of the organisms present in the pup's blood to-day. I showed them fresh to Dr. Cuningham. The dog appears to be getting on famously."

This agrees with my observations in the horse, that the parasites come and go in successive broods.

Appendix K.

Notes upon the Sanitary Condition of the Horse-lines at Dera Ismail Khan, and Outposts.

1. *Dera Ismail Khan, 29th September*, 1880.—Headquarters 4th Punjab Cavalry, 242 sabres. The station is situated upon the west bank of the Indus. The soil is alluvial mud and sand, fertile where it can be irrigated. The horses stand on open lines, raised about a foot, which are kept in fair condition. The climate is exceedingly dry, it is beyond the reach of the monsoon, and the annual rain-fall of the district is exceedingly small; cultivation is carried on entirely by irrigation. The best grasses growing in the district are *Sain* (or *Sen*), *Dhoob*, *Dhab*, and *Keo*. Sain is said to be preferred by the horses, and it contains better feeding; it appears to suit the soil and climate better than dhoob. Dhab and keo are inferior grasses, and are not used except when the others are scarce. But, owing to the extreme dryness of the climate and soil, no grass of any kind fit for use can be obtained for a great part of the year, and then horses are fed on *Bhoosa*, or chopped straw. Grain good; barley bad. The water for drinking at Dera Ismail Khan is obtained from wells. There are two wells at the horse-lines, one in front, and one in the rear. The immediate surroundings of both wells were in a filthy state, black mud and green slime all round within a few feet of the mouth of the wells, on the brick platform, etc. The bhistis' bullocks stood upon the edge of the well dropping dung within three feet of it. The platform at the top of the well was originally flat, it is now worn unevenly, so that there are many depressions to retain water and dirt, stagnant, exposed to the hot sun, breeding-places for many kinds of infusorial life, The men, according to custom, stand on this unevenly flat top of the well to bathe their bodies

every morning, and of necessity some of the dirty water runs into the well. The bhistis I saw walk through the black mud and green slime, and stand with their slimy feet on the very edge of the well while they drew the water, and the slime trickled down from their feet into the well. After seeing all this I was not surprised to find many infusoria visible to the naked eye by the rays of the sun passing through a clear glass bottle, with the water fresh drawn. These remarks apply to both the wells. They ought to be periodically cleaned out, and a wall built round the edge, two feet high, the top of this wall to be made slanting in so that no one could stand on it, and the platform made to slant out so that no water could remain upon it; the platform should be surrounded by a puckha drain, and a similar drain should lead from that to a distant channel. The wells should also be covered.

2. The natives appear to have no notion of cleanliness apart from what is ceremonial, and they will drink any filthy water so long as they get it within their ceremonial rules of religion, which accounts for many of their diseases. There is an idea too common among British officers that any water which is used by the sowar is good enough for his horse, and that it is useless to interfere between the native and his drink. Now I beg most respectfully to state that so long as that goes on the horses will be subject to fatal diseases, and much loss of money will be occasioned thereby.

Clean and pure water ought to be obtained for the horses irrespective of any religious prejudices in favour of dirt. If it is thought impolitic to dictate to the native what he should drink, surely we need not fear if we insist that the sowar's horse shall live in accordance with the laws of health. It may not be impolitic to bear in mind that it costs more to get a good horse than a man to serve in the army.

3. There were seven cases of Surra first reported sick at Dera Ismail Khan in 1878, two in 1879, and one in 1880. All fatal. Before I proceed to comment upon the particular outposts, I shall offer a few remarks upon the geological features of the district generally, and upon the water-system, which will help to make clear what I may say in respect to each post.

4. The district of Dera Ismail Khan extends from the Indus to our frontier at the foot of the Suliman range of mountains, and from Bain in the north to Draband in the south. Roughly speaking, judging from the map, it includes an area of about forty miles square. The hills, so far as I could see, are composed of grey sandstone, conglomerate, and limestone. Near the foot of the hills the ground is very stony, with some rather large boulders mixed with clean sand, like the dry shore of an ancient sea. From there the land slopes to the Indus, the soil at first becoming less stony, more gravelly and sandy, then the gravel disappears and there is more and more of alluvial mud mixed with the sand as we approach the Indus, but the sand remains in a large proportion.

5. The streams and rivers which come within our borders from the Suliman valleys are not allowed to reach the Indus except by percolation through the soil. My opinion is, that owing to its being spread over such an extensive area of dry, sandy soil, the water is nearly all evaporated by the heat of the sun before it reaches the Indus.

6. As soon as a river comes well within our boundary, the natives dam it, and make what they call a "bund." From this dam channels are made to carry the water in different directions on the plain. As these main channels proceed, they divide and subdivide into a perfect network of small channels, about a foot wide and a few inches deep, circulating round the small enclosures and inosculating with each other. From them water is drawn to irrigate the fields about the villages, and from them men and animals drink, until at last the water becomes expended so that the channels cannot be conducted further.

7. There are very few wells in the district outside Dera Ismail Khan. It may be said that there is no cultivation anywhere except where the land is irrigated as I have described, from the rivers coming in from the Suliman hills. Beyond these networks of irrigation channels the land is a barren desert.

8. These shallow courses are made to circulate in a manner to check the too-rapid flow of the water and this arrest is further encouraged by allowing sedgy vegetation to grow freely in them. I found the water often stagnant, and exposed to a tropical sun

for hours, when the channel was dammed at distant points for the purpose of irrigation. Nothing could be contrived more favourable for the development of the lowest forms of organic life, animal and vegetable, and these I found swarming and often visible to the naked eye in a clear glass bottle exposed to the rays of the sun. The farther the channels are from the main arteries, the more does the water approach the condition of marsh water, and we should expect animals who drink such water to be infested by parasites found in animals pastured on marsh lands. Accordingly, I found flukes in the livers of two of the horses which suffered from Surra. The fluke is an exceedingly rare parasite in the liver of the horse. I never saw one before, and very few veterinary surgeons ever have found one in that animal, though they are not uncommon in the ass in England, because he is ill cared for and pastured on waste places, commons, etc., where the land is more or less of a marshy character, and the water stagnant. The presence of the flukes in the livers of these horses is alone a proof that the water which they drank was not good. The parasites could not be traced to any marsh grass, for there are no marshes proper in the district, the soil is too porous and the climate too dry; the horses were fed on grass grown on dry, sandy soil, or else on chopped straw. The bottom of all the irrigation channels which I saw was slimy.

9. My opinion is that the cause of Surra is taken in by the horses with the water which they drink; that the dirty condition of the wells at Dera Ismail Khan, favours the development of that cause to some extent, but that it is developed mostly in water conveyed by shallow, winding, sedgy, slimy watercourses such as I have above described, exposed to the influences of a scorching sun and a cloudless sky.

10. There are three ways of avoiding it. First, get pure well-water. I am told that no good well-water can be got at the outposts by the native mode of digging; the water obtained is far too salty. Could not an artesian well be made deep enough at reasonable cost to obtain good water from a lower stratum? Secondly, if no good water can be obtained from wells, the water from the irrigation channels should be boiled every day before the horses drink it. Thirdly, draw water for the horses direct

from the rivers above the irrigation channels, by means of pipes.

11. Filtering the water through a bed of clean sand three feet deep has been suggested to me, but do not think it would be effective; besides, the filter would require very frequent renewal, and I do not think the native officers in charge of the outposts could be trusted to do that properly.

12. I made the following notes at the outposts which I visited:—

13. *Tonk, October 11th,* 1880.—One hundred sabres, 1st Punjab Cavalry. The stables are low sheds, open on both sides, the roof only six feet from the floor; the floor lower than the ground outside, and very uneven. In four out of five stalls I examined, the soil was impregnated with urine five or six inches deep in the centre. The roof should be elevated, and the standings raised one foot at least above the surrounding ground. The surface drains all about the lines are very dirty, with grass and slime choking them. Water is made to flow slowly through these drains every day, drawn from irrigation channels, to promote the growth of young trees in the lines. There is a small open pond or tank, thirty by thirty-seven paces, on the east of the bazaar, where all the men bathe; the water is stagnant and exceedingly dirty, full of infusoria and frogs, etc., with a slimy bottom. Fresh water is brought in occasionally from a shallow irrigation channel, about a foot and a half wide, about four miles distant from the river Zam. The bottom of the channel is slimy, and the flow of water is intercepted by sedgy growths as well as by its tortuous course, favouring the development of low organisms, infusoria, etc. The horses are now supplied with water from this tank, because the 1st Punjab Cavalry only arrived from Cabul on the 30th ult. with the war complement of water-carriers, and they say they cannot bring enough water from the other tank, which is a little further off on the west side of the tahsil, and from which, I am told, the 4th Punjab Cavalry always get water for the horses. I visited the tahsil tank, and found it covered, twenty-one feet square, with about three feet of water in. It is supplied by an exactly similar irrigation channel as the other tank, but is kept cleaner, and the water is more often renewed. It is dirty enough, but I am told it is considered the cleanest in the neighbourhood. I found the water

in it contained a great many infusoria visible to the naked eye by means of sunlight passing through a clear glass bottle. There is no well in the whole country about. The grass at present is good; grain and barley are inferior.

(*To be continued.*)

SERO-FIBRINOUS PERICARDITIS IN A COW.

BY THOMAS CHAMBERS, M.R.C.V.S., DUDLEY.

THINKING perhaps that the following case will interest some of the readers of the VETERINARY JOURNAL, I send a few particulars.

I was first called in to see the animal in question on Christmas Day last. She had been unwell for some days; refused her food; lactation entirely suspended; the extremities and surface of the body cold; very weak, with great difficulty kept standing position; pulse imperceptible at the jaw; temperature 98° F.; respiration slightly accelerated. I diagnosed the case as one of Heart Disease. Prognosis, death. Treatment: gave diffusible stimulants in old ale. Ordered her to be well rubbed with wisps, and the body to be warmly clothed.

December 26th.—Seemed a little better. Pulse slightly perceptible at the jaw, but very much quicker than yesterday; temperature 100° F. Had taken a small quantity of gruel and eaten a few pieces of mangold. Repeated yesterday's treatment.

December 27th.—Cow seems much better, stands up for an hour at a time; eaten small quantity of mangold and cabbage leaves. Temperature 101° F.; pulse same as yesterday; ears and horns warm. Gave stimulants again.

December 28th.—Seems to be improving. Temperature 102° F. Has fed well. Pulse still much accelerated and weak. Gave half-pint of milk. Repeated yesterday's treatment.

December 29th.—Seems to be going on well. Temperature 102° F.; pulse same as yesterday. Fed well. Gave Ammon. carb. ʒiij., in old ale night and morning.

December 30th.—Seems to be going on as well as possible. Gave pint of milk. Temperature 102° F.; pulse still weak and accelerated. Chewing cud, and feeds well.

December 31st.—Did not see her.

January 1st.—My pupil (Mr. Golden) saw her and did not think she was so well. Temperature 103°. Refused all food and gruel. Pulse imperceptible. Gave no milk. Eyes very glassy. Gave Eth. sulph. ʒj. in ale three times a day.

January 2nd.—Saw her myself, and agreed with pupil's opinion. Was scarcely able to rise; and when she did so, with great difficulty retained the position. Pulse imperceptible. Could not detect cardiac sounds by auscultation. Breathing very much accelerated. Grunts a good deal. Told the owner she was dying, and that a *post-mortem* examination would reveal increased quantity of water in the heart's sac.

January 3rd.—Dead.

I did not see her opened, but the owner said there was a great quantity of water in the heart's sac.

I forwarded the heart to G. Fleming, Esq., through whose kindness I received the enclosed report upon the case.

Mr. Garside, M.R.C.V.S., examined the heart and made the following notes:—

The heart forwarded by Mr. Chambers shows the case to have been one of Sero-fibrinous Pericarditis. Both visceral and parietal layers were covered by false membranes varying in thickness from $\frac{1}{8}$ to $\frac{1}{2}$ in. Adhesion only appears to have been present at one point, viz., over the right auricle. The large quantity of fluid contained in the sac would of course break down or prevent adhesion to any extent occurring. As it was poured out it would naturally sink to the bottom; adhesion might, still therefore, take place superiorly to the water line. The right auricle was probably in this position, hence the above-mentioned union between the two layers. The false membrane of the visceral portion was the thicker of the two, and the external portion of the heart's walls had undergone fatty degeneration, especially at some points. The surfaces were extremely rough and uneven owing to the heart's action.

The posterior face of the left ventricle showed a large ulcerated patch. It did not, however, extend into the left ventricle. This seemed to point to Traumatic Pericarditis, but no foreign body was discovered. Rupture of newly-formed blood-vessels had led to the formation of hæmorrhagic patches in the false membranes.

Editorial.

THE VETERINARY MEDICAL BILL OF 1863-4-5-6-7.

THE recent successful attempt to emancipate the members of the veterinary profession from the bondage in which they have been held ever since the incorporation of the Royal College, must have recalled to the mind of some of the older practitioners the abortive, though long-continued effort made nearly twenty years ago with the same object. The history of that attempt is not without its value even now, and conveys a certain kind of instruction which should not be lost to the younger members of the present day. Though the desires of the profession in 1863 were of the most modest and simple character, so far as legislative protection was concerned, aud though no fewer that five years were occupied in the discussion of the measure, yet it would appear that very much the same influences which all but wrecked the Veterinary Surgeons' Act of 1881, were at work then and defeated the attempt. There is much food for reflection, if not for gratification, to be derived from a study of the Bill of nineteen years ago, the steps which were taken to promote it, the opposition it received, and its ultimate failure, when compared with the Act of now-a-days, and its history still so fresh, in one or two respects painfully fresh, in the memory. Nineteen years ago, and just nineteen years after the Charter of Incorporation was obtained, the profession appears to have become deeply alive to the urgency that existed for preventing unqualified men adopting the title of veterinary surgeon. Every year the number of these persons appears to have been on the increase, and as the graduates of the Royal College likewise increased, the competition between the two became stronger and fiercer, and was not always in favour of the qualified practitioners. From a return which was prepared in 1863, it is shown that the number of members of the Royal College then practising in the United Kingdom was only 1,018, while those who had assumed the title of veterinary surgeon was 1,244, and those who called themselves farriers 1,189. The evidence furnished by these figures afforded, it is stated, "a striking corroboration of the well-founded and long-entertained assurance, that the profession requires some legislative support." At a meeting of Council held in April, 1863 (Professor Simonds then President), a discussion took place relative to the steps that should be taken for the better protection of veterinary surgeons, and a committee was appointed to prepare a petition with a view to the obtainment of an Act of Parliament; while at the annual meeting in May of that year the subject was seriously considered, and the members of the profession requested to exercise their influence with Members of Parliament. At the Council Meeting in October (Mr. Ernes, President), the Parliamentary Committee produced the draft of the Veterinary Medical Bill, which contained eight clauses; it was lengthily discussed, and several abridgments and alterations were made. As then amended, it was agreed to; and the Secretary was instructed to submit it to the legal adviser of the College for his opinion, and in order to ascertain the cost and the course of procedure to

be followed in order to have it introduced into Parliament. It was returned to the Council by the legal adviser, and under the designation of the Veterinary Medical Act, we find the following clauses :—II. This Act shall take effect from the first day of October, One thousand eight hundred and sixty-four.

III. Any person, not being a Member of the said Royal College of Veterinary Surgeons, who shall, after the time appointed for this Act coming into operation, take or use the name or title of veterinary surgeon, or who shall falsely represent himself to be a member of the said College, or who shall use any other name or title with intent to lead, or whereby the public may be led to believe that he is a member of the said Royal College of Veterinary Surgeons, shall, upon a summary conviction for any and every such offence, pay a sum not exceeding Ten Pounds, nor less than Five Pounds.

The remaining clauses are of little moment, and are related to the mode in which penalties are to be imposed; the last clause states that "Any person, being a member of the Royal College of Veterinary Surgeons, actually practising, shall be exempt from serving on all juries and inquests whatever."

It appears that the time which was occcupied by the Council (one year) in giving the subject mature consideration and in obtaining legal opinions thereon, made it too late to bring the measure forward in Parliament as a private Bill; and therefore, rather than postpone proceedings for another year, it was deemed desirable by the President to take steps to introduce it as a public Bill (*vide* Annual Report of Council for 1864). At the meeting of Council in February, 1864, the President (Mr. Ernes) stated that he had been in communication with Mr. Holland, M.P. for Eversham, with regard to bringing the Bill into Parliament, and submitted notes relative to it; and that gentleman had given notice to the House of Commons "that he would introduce a Bill for bettering the regulations of the veterinary profession." Mr. Holland was then awaiting further instructions from the Council, and after a *long discussion* at that meeting, it was decided that "a copy of the Counsel's opinion with regard to the Bill he submitted to Mr. Holland, and that the President and Secretary do wait upon that gentleman to ascertain the probable result of bringing forward the measure in Parliament."

The Royal College issued a circular, stating the grounds for introducing the measure as a public Bill, in which it is stated that "the Act would not affect those in actual practice, and who had *not* graduated, at the time it would come into operation. It is simply prospective, and its effect would be to cause all future candidates of the veterinary art to study at one or other of the veterinary schools."

It will thus be seen that, probably acting upon the legal opinions obtained, the Council was compelled to allow *every non-qualified person in practice at the passing of the Act*, to retain the title of veterinary surgeon—the measure being merely a *prospective* one. Indeed, it would seem from the discussion that took place at the Annual Meeting in 1864, that the Council desired even less than this, for one of the speakers said, "I believe there is no wish expressed that persons should

not call themselves veterinary surgeons, but that they should not call themselves members of the Royal College of Veterinary Surgeons"; to which the President replied, "that is the object of the Act." In the Annual Report just quoted from, it is announced that the effort to secure exemption from juries had failed, and an appeal is made to practitioners to secure the influence of Members of Parliament in having the Bill carried through the Legislature. The cause of the long delay in proceeding with the Bill is given by the President at the same meeting. "The Committee gave themselves a vast deal of trouble, and they laid their report before the Council. The Council at first eagerly adopted it, and agreed to every clause in the Bill, only making slight alterations. Then, for some reason, I cannot tell what, the Council altered their opinion, and seemed rather afraid of proceeding with the Bill. They said they would have a legal opinion upon it, and that legal opinion was obtained. But instead of proceeding with the Bill, it was thought desirable to have another legal opinion, which postponed the time for giving the Parliamentary notices. I then took it upon myself to have it introduced as a public Bill. There are reasons stated why it should take the form of a public Bill; but I do not expect it will pass in that form. The notices should have been given, and it should have gone in as a private Bill; and if that had been done we should have drawn up petitions, and have pressed on the Bill as fast as we could, and then we should have had a chance of success. But as a public Bill I do not think the Government will take it up; the reasons assigned are not strong enough to induce them to adopt it as a public Bill. As you are about to elect members of the Council in the room of those who go out by rotation, I advise you to elect gentlemen who will protect your interests. Unless there is a little pressure from without upon the Council, I do not think you will succeed in getting the Bill. Twenty years have elapsed, and nothing has been done; *and if you do not take the thing in hand, and put your shoulders to the wheel, nothing will be done for the next twenty years.*"

Another year was allowed to elapse, apparently without anything more being effected in promoting the Bill; for at the Annual Meeting in 1865, there is no allusion to it in the Report, neither did the President (R. L. Hunt) mention it; though in the discussion there were severe comments upon the delay that had taken place, reflections on the apathy of the profession in supporting the Bill, and hints that *too much* (!) had been asked for in the measure—"There appeared to be a great aversion on the part of the Government and the country at large to affording exclusive privileges to a profession"; besides "there were many members of the Council who objected, without seeing their way clearly, to exhausting the funds of the College in applying to Parliament for the advantages they all desired."

Nothing more is to be learned in connection with the Bill, until the Council meeting in October, 1865 (Professor Varnell, President), when a revised Bill was submitted, the only alteration being the omission of the clause relating to exemption from serving on juries. There is the following statement given as *a reason* for the Bill becoming law: "It is

not, however, intended to make the Veterinary Medical Act retrospective in its provisions, nor to prevent any one if those who have falsely assumed the name and profession of veterinary surgeons from continuing to practise and to call themselves as such. It is, however, considered that after the twenty years' notice given by the Royal Charter, the time has now arrived when, in justice to the profession and to the public, all future encroachments upon the Charter shall be prevented, and that henceforth no one shall be permitted to practise under a falsely-assumed name or pretence of being a veterinary surgeon. *It will be still left open to any one who can get practice to pursue his calling under whatever title he chooses*, providing only that it does not involve the false representation that he is a duly-educated and admitted member of the veterinary profession." It was proposed that the Act should take effect from October 1st, 1866, and (clause iv.) it was not to affect any person who previous to that date was practising under the title of veterinary surgeon. The penalty was fixed at a sum not exceeding five pounds nor less than two pounds.

In 1866, a small amount of interest seems to have been aroused on the part of the profession, if we are to judge from the three or four communications which appear in the professional journal. The opinions therein expressed are unfavourable, others favourable, to the retention of the title of veterinary surgeon by unqualified practitioners. At the annual meeting held in that year, the revised Bill is alluded to, and it is stated that the Council, finding there was considerable opposition to clause iv. of the draft, determined on obtaining the individual views of the members of the profession, and accordingly issued a circular. On the replies received, another revised Bill was framed, clause iii. of which reads as follows: "Any person, not being a member of the Royal College of Veterinary Surgeons, who shall, after the time appointed for this Act coming into operation, take or use the name or title of Veterinary Surgeon, or who shall falsely represent himself to be a Member of the said College, or who shall use any other name or title with intent to lead, or whereby the public may be led to believe that he is a Member of the said Royal College of Veterinary Surgeons, shall, upon a summary conviction for any and every such offence, pay a sum not exceeding Five Pounds and not less than Two Pounds;" and clause iv. states: "Provided nevertheless that this Act shall not affect any person who shall have assumed the name or title of Veterinary Surgeon prior to the obtainment of the Charter of the Royal College of Veterinary Surgeons." The Council reported that the Bill was then "in the hands of two Members of the House of Commons, on whose strenuous support and exertions the profession might rely."

A special meeting of Council was held on May 21st, 1866, Mr. Lawson, President, when it was announced that Messrs. Newdegate and Holland, M.P's, had consented to have their names placed on the Bill, the former expressing the hope that it might pass through the Commons without interruption, and urging the necessity of influence being procured in the House of Lords. A deputation was appointed to confer with these gentlemen, and also with the Right Hon. H. A. Bruce, Home

Secretary (now Lord Aberdare), with regard to the Bill, then in Parliament. On May 28th, a deputation, consisting of the President, Profs. Simonds, Varnell and Gamgee, and Messrs. Harrison and Coates, waited upon the Home Secretary. In discussing the portion of the Charter implying that the title of veterinary surgeon belonged exclusively to members of the Royal College, Mr. Bruce said he did not consider that the provisions of the Charter precluded non-members from designating themselves veterinary surgeons. He did not appear to be opposed to the measure, but rather sought information with regard to the position of the Royal College, and the effect the measure would have on the profession generally; he asked Mr. Holland to postpone bringing the Bill into Committee of the House until he could give the whole subject his careful consideration.

On June 11th, another special meeting of Council was held, at which was read an anonymous paper that had been largely circulated among Members of Parliament, entitled "Reasons why the Veterinary Surgeons' Bill should not pass." The opposition was evidently got up by those in and out of the profession who were agitating for a Chartered College for Scotland, and the reasons were largely founded on misrepresentations as to the effect of the proposed Act. The paper is published in the *Veterinarian* for 1866 (p. 617). At the meeting the extent and nature of the opposition was indicated, and another deputation was appointed to attend a conference at the House of Commons. Another special meeting of Council was held on June 25th, and again on July 4th, at which the opposition was considered and discussed, the chief opponent of the Bill in the House of Commons being one of the Members of Parliament for Edinburgh. The Bill had been postponed in the Commons in consequence of the House not meeting for business; and Mr. Holland being obliged to leave town, it was placed in charge of Mr. Newdegate. For July 23rd, 1866, we read in the Parliamentary Intelligence that, "on the order for going into Committee on the Veterinary Bill in the Commons, Mr. Newdegate explained its objects; but added that it was not his intention to press it then, and he would leave it in the hands of the Government. Mr. Corry said he had received representations from both sides respecting the Bill, and the discrepancy between the statements was so great as to make it no easy task to give a decided opinion on the subject. He was glad it was not the intention of Mr. Newdegate to press the Bill that session, as he was going to suggest to him to withdraw it and give time for further consideration." After some further discussion by two Scotch members (Messrs. McLaren and Leslie), opponents of the measure, the order for Committee was discharged, and the Bill was withdrawn. At the Council meeting in October, a letter was read from Mr. Holland, M.P., to the effect "that the Veterinary Surgeons' Bill was withdrawn for the session, and that in the meanwhile Government had promised not to grant a Charter to Scotland during the recess."

In the years 1867-8, under the presidency of the late W. Field, junr., little allusion seems to have been made at the Council meetings to further progress with the Bill. At the commencement of the first-

mentioned year, there appears to have been some hope that it would be again introduced into Parliament, though the question of a Charter for Scotland was evidently throwing it into the shade. In February a deputation waited upon the Right Hon. H. T. L. Corry, M.P., to protest against this Charter being granted, and also to advocate the obtainment of the Act. Mr. Corry promised that he would give his best consideration to the matter. At a special meeting of Council held in March, it was suggested that application for the Bill should be pressed forward as early as possible; and at another special meeting in the same month the amended Bill, without alteration in the draft, was again considered. It was then thought "that no time should be lost in bringing it before the House, as it was only by its being kept constantly before the public and the House that it would ultimately be obtained. It was further considered that the Bill ought to take the very first position in the minds of the members of the profession, and that it should supersede any other measures having for their object the advancement of their common art. To enforce the claims of the profession, it was suggested that a general meeting of the profession be called for taking into consideration the objects of the Charter, and the propriety of drawing up a petition for the obtainment of the Bill, which should be signed by every member of the profession, and placed in the hands of a Member of Parliament; and that the question of the Bill should take precedence of any other matters of a political character." The promoters of the Scotch Charter were moving energetically towards the advancement of their object, and in the middle and end of 1867, the influence of the Council appears to have been exercised entirely in opposing them. The last allusion made at the Council to the Bill was in July, 1876, when it was suggested that the opinion of Messrs. Newdegate and Holland should be elicited as to the advisability of a deputation waiting upon the Under-Secretary of State for the Home Department, and laying before him a statement in favour of the Veterinary Surgeon's Bill. There is no evidence that such a deputation was sanctioned, and nothing more appears to have been done towards protecting the profession and the public. The subject was before the Council for the long period of five years; at ordinary meetings and special meetings during these years it had been lengthily and wearily discussed; solicitors and council had drafted, studied, amended, commented, advised upon, and drawn up reasons for the Bill; deputations had waited upon legal, Parliamentary, and Government authorities; and heavy expenses had to be defrayed by the Royal College, and yet all terminated in a *fiasco*—a termination largely, if not altogether due to the promoters of the Charter for Scotland. The movement for the obtainment of the Bill was at that time instituted solely by the profession, and was consequently a total failure, notwithstanding the extreme modesty of the demand. Had the Bill been passed in its final shape, it would not have suppressed the empiric, the pretender, and the shameless impostor; and though it would have rendered the title of Veterinary Surgeon exclusively the property of the qualified practitioner, either from the passing of the Act or from the date of the Charter (but this even at that time would

never have been granted), yet it conferred no other advantages, and would have benefited the profession very little indeed. Had another attempt been made on the same lines and in the same manner as in 1863-67, there can scarcely be a doubt that the result would have been the same—signal failure. Every year the task was becoming more difficult, as the number of unqualified practitioners had greatly increased and was daily being added to ; while, as has ever been the case with the profession in this country, there were those who, for some reason or other, would have tried to defeat any measure of this kind, no matter how reasonable or advantageous it might be.

When the history and scope of the Bill of 1863-67 are compared with those of the Act now in force, the profession may congratulate itself that, though the evils of delay have been serious enough, yet the benefits now conferred far more than compensate for the loss sustained through the collapse of the first attempt. It may safely be asserted that no profession in this country ever obtained a legislative measure conferring such advantages as are to be found in the Act under which members of the Royal College of Veterinary Surgeons now, and will for the future, pursue their calling.

HORSE SICKNESS OR ANTHRAX IN SOUTH AFRICA: ITS NATURE, CAUSES, PREVENTION, SYMPTOMS, AND TREATMENT.

BY JAMES LAMBERT, F.R.C.V.S., PRINCIPAL VETERINARY SURGEON TO THE FORCES, NATAL.*

IN this paper the use of technical and scientific terms is, as far as possible, avoided, and what to many persons may appear to be very simple matters are explained at some length, and sometimes with reiteration, so that there may be no trouble in fully understanding what we wish to convey to the minds of our readers.

Horse Sickness is Anthrax, therefore Horse Sickness and Anthrax in this essay have the same meaning, and are the same malady ; but before going particularly into the subject of Horse Sickness, we will make some general remarks on the disease.

Anthrax is a term used to express a disease which in different countries attacks all animals, and which is caused by the existence in the blood and fluids of the body of a microscopic parasitic organism of a vegetable nature, and introduced from without. The results produced by this parasite—scientifically termed the *Bacillus anthracis*—will be described as we proceed.

Anthrax is the most universal disease we know. It attacks animals of all kinds (man included), some species in one region, some in another, and even birds and fishes, and no part of the globe is free from it.

In his very valuable and learned work, "Veterinary Sanitary Science and Police," vol. 2, Mr. Fleming, Army Inspecting Veterinary Surgeon, says, "It

* This Report was ordered to be published for general information, by the Governor of Natal, in October last.

has been carefully described by travellers and others as they have observed it affecting animals in Siberia, Lapland, Finland, Egypt, the East and West Indies, Russia, Central Asia, China, Cochin China, various parts of North and South America, and different regions of Africa, while for European countries the writings which have been published with regard to its nature and peculiar characteristics, and the damage it inflicts, are innumerable."

In Scotland Anthrax mostly attacks sheep, and is there called Braxy; in England it chiefly assails cattle, and is commonly called Splenic Fever or Quarter-ill, Black-leg, Blain, etc. In France it is called Charbon, and is an awful scourge to sheep. The celebrated Professor Pasteur, at the International Medical Congress this year in England, stated that sheep to the value of twenty million francs annually die of it in France, where certain districts are notorious for it. In one, Beauce, it is calculated that the yearly loss from this disease is one hundred and seventy-eight thousand sheep. Great mortality has this year been caused in many parts of the Russian empire amongst horses and cattle, and also mankind, by the so-called Siberian Plague, which is Anthrax. This disease must not be confounded with Rinderpest.

That many deaths have occurred to human beings in Russia and other countries from Anthrax is not a matter for surprise, because we frequently have fatal cases in England from the so-called "Wool-sorter's Disease." This malady, which is now attracting much attention, occurs in the West Riding of Yorkshire, and is undoubtedly caused by the workmen handling Anthrax-infected wool and hair. More than one hundred thousand bales of Eastern wool are annually imported into England. It has been suggested that the importation of fleeces and goat's hair which have been cut from dead animals —easily recognized by experts—should be prohibited, but there would be so many means of evading this that the law would be almost useless. It would be so easy to mix such wool with that cut from healthy living animals that endless expense and trouble would be caused by the inspection. Very severe punishments, if they could be arranged between the several countries concerned, would alone prevent such dangerous rascality.

So far as we know, Anthrax does not appear in man and the carnivora (animals subsisting on flesh) unless caught from other animals; but in herbivora (animals subsisting on grass, herbs, vegetables) and in pigs it arises readily enough, and also in many kinds of birds, including fowls, geese, ducks, turkeys, pigeons, etc.

Anthrax in some countries is *very contagious*, that is "catching," while in others it seems to be rarely or never so. Horse Sickness in South Africa does not appear to be contagious. But a disease like Anthrax may at any time become contagious; therefore they who are wise will, even in cases of Horse Sickness, take precautions both before and after the affected animal's death. Climate probably causes the differences in the contagious and non-contagious character of Anthrax.

Horse Sickness in India is called Loodiana Fever, and is there very destructive to horses, and the greatest precautions have to be taken to prevent contagion. It chiefly shows itself by swellings about the head and neck, but its essential characteristics are the same as those of Horse Sickness here in Natal.

In all species of animals there are certain common after-death appearances in the various kinds of Anthrax, viz., Horse Sickness, Charbon, Blain, Gloss-anthrax, Splenic Apoplexy, Siberian Plague, etc., which readily enable us to see that the maladies are only different manifestations of the same disease. We observe what plainly shows us that it is an affection of no one particular part of the body, but that it is constitutional, or, in other words, that it pervades all parts of the system.

Let us now, in order to see what kind of a disease Anthrax is, make an examination of the body of a horse which has died here in Pietermaritzburg from Horse Sickness. Very often the first thing that strikes us on approaching the spot is a great swelling of the body, and a discharge of froth from the nostrils. This froth is frequently as white as snow, and sometimes will project from the nose like a large mass of the purest cotton wool. The cause of this peculiar appearance will be explained as we proceed. Removing the skin, we see collections of yellow transparent jelly-like material in and between the muscles, and where there is most room for it, about the neck, especially the lower side of it from the head to the chest. There is a quantity of this gelatinous substance about the windpipe (trachea), and there is much of it on the lungs and under what is called the pleura, that is, the bright shining membrane covering the lungs. There is also plenty of it in many parts of the chest, the abdomen, etc. If we cut into the lungs we find a quantity of this jelly in the air-carrying tubes, especially the windpipe, and the small ones called the bronchial tubes, into which the windpipe divides so as to allow air to pass to all parts of the lungs. Now if we expose this citron-coloured gelatinous substance to the atmosphere it soon liquefies, and appears to turn to water; but when subjected to the action of the lungs, owing to their elasticity both before and after death, it mixes with the air, and works up into froth, which, when it appears before death, speedily suffocates the animal, a most painful sight often witnessed last April and May in Maritzburg. Sometimes there is no frothy discharge from the nose either before or after death, and in such cases it is absent because little of the jelly-like material is formed, or rather poured into the air-tubes of the lungs.

It is the presence of this jelly-like substance that has given rise to the popular fallacy that Horse Sickness is a disease of the lungs; but it is no more a malady confined to the lungs than is Lung Sickness, the contagious Pleuro-pneumonia of cattle. The fact is that these diseases attack and pervade every part of the system, but show themselves to the ordinary observer more in the lungs, because these are very large and open-textured organs, and therefore the products of the malady find space and suitable location. That the Contagious Lung Sickness of cattle is not a disease confined to the lungs is proved by preventive inoculation, which, being employed on the tip of the tail, causes the usual fever without sensibly affecting the lungs, which vital organs it is the main object of the operation to protect. We have not, then, inflammation of the lungs in Horse Sickness, and we may here state that we have not Enteric Fever.

To continue our *post-mortem* examination. Sometimes we find black spots and stains on the heart, and various muscles, and other parts. The blood in the blood-vessels coagulates very imperfectly, or not at all, and is dark-coloured and tar-like, and it stains muscles, etc., if left long in contact with them, and often when we cut into the muscles we find these dark stains inside them. Sometimes we find the tongue swollen and dark-coloured. Sometimes we find the stomach and intestines with red and dark patches inside them as if corroded, which appearances have led some observers to erroneously consider the disease to be Enteric Fever. If we turn down the eyelids, and look at what in health is the pink membrane lining them, we see small claret-coloured spots here and there on it. All the above appearances admit of easy scientific explanation, which, however, is here unnecessary; suffice it now to say that they are clear indications of a disease affecting the blood, and by it all parts of the body. Horse Sickness, then, is a malady which everywhere poisons the system, and which, as will be further explained, depends upon a living parasitic poison introduced from without.

The first-described after-death appearances are those we see in horses and

mules in Natal; but they are also, with some variations, those usually observed in Anthrax-destroyed animals all over the world.*

Nature and Causes of Horse Sickness.

We will now specially consider that variety of Anthrax which in South Africa is called Horse Sickness. It is a soil-developed disease, produced by a living microscopical organism, of a vegetable nature, scientifically called the *Bacillus anthracis*, of which the germs are exceedingly minute, so much so as to be readily carried in the air. These germs are taken in by the animal in its food, or by breathing a malarious or miasmatic atmosphere which contains them. Malaria literally means bad air, but we here use the term to indicate air given off from foul or marshy or swampy ground, and containing the poisonous germs which, when they get into the body of a susceptible animal, have the power of multiplying themselves and causing changes in the blood injurious and destructive to life. The word miasma is quite as good as malaria, and we here wish it to be understood as conveying the same meaning.

In Natal the seasons are Spring—August, September, October; Summer—November, December, January; Autumn—February, March, April; Winter—May, June, July, August. The wet season, September, October, November, December, January, February, March. The Horse Sickness season is therefore just when we should expect, in March, April, and May, although cases now and then occur in any month. We saw an undoubted case in a horse in Pietermaritzburg in June, and in a mule at Karkloof in August.

Anthrax in all countries occurs most frequently in marshy, swampy, and low-lying districts, and in places where the surface water does not readily escape or evaporates very slowly. In Great Britain, not only the domesticated animals, but also mankind at one time suffered terribly from Anthrax, but good drainage and improved agriculture have in a very great measure banished it. There is little doubt, we think, that such will be the case in South Africa. "Countries most backward in agriculture suffer most from Anthrax."

Nothing is more common than to hear Natal colonists say that horses which are kept up and fed in stables are much less liable to Horse Sickness than those which are turned out to graze on dewy grass, and nothing is more true. Many people aver that a stabled horse will not take the disease, but they are mistaken, as we saw in Pietermaritzburg this year, 1881. But it is a *practical* fact that stabled horses are very much less liable to it, and, from the foregoing remarks about the nature of the disease, we can easily see why it should be so.

We must now mention another colonial belief, which is that eating dewy grass is bad and productive of Horse Sickness in many districts. Such experience is not confined to Anthrax in South Africa, but it is well known and acted upon in other countries.

Is the dew theory tenable in practice? It is; and as much importance is attached to it in Natal, we will examine it at some length. We have said that Horse Sickness is a soil-developed disease, or, in other words, that it depends upon the emanation of germs from the soil. Now it is the current belief among the most advanced pathologists, and we think with very good reason that all miasmatic and contagious, and infectious diseases depend upon *living* poisonous matter, which exists as very minute germs, and which

* Veterinary Surgeon W. Pallin, A.V.D., while here in last April and May, made many autopsies of horses which had died of the disease. Some of these I saw, as well as others after he left.

living poisonous matter is introduced from without. We all know that if we wet a piece of cloth and hang it out in the air it will more or less speedily dry. It does so by what is termed evaporation, that is, the moisture passes as vapour into the air, although very often, in fact usually, we cannot see it doing so. Thus it is with the exceedingly minute germs which rise from the soil and produce Horse Sickness. They are soil-developed, and when the watery vapour rises by evaporation they are entangled in it and float in it, for they are both small enough and light enough to readily do so, and thus they are carried to a certain height into the atmosphere. We all know that when the dew "falls" it is only the watery vapour of the air which condenses on different cold objects on the earth, in this instance the grass; consequently a great quantity of the germs fall with, and become condensed in the dew, and if a horse eats much dewy grass he is likely to get a large quantity of the poison in a concentrated form. But why does not the animal get enough poisonous germs from the air alone to cause Horse Sickness? So he frequently does in bad situations, as we shall presently understand.

It must not, however, be argued from this dew theory that if we can protect animals from eating the dewy grass we can thereby be sure of preventing Horse Sickness, for it is very probable, nay certain, that air containing germs in sufficient quantity will, if breathed, give access to them through the lungs, and so they may enter the blood, as is the case with the germs producing many other diseases. The lungs very readily absorb many things brought into them by the atmosphere.

We may here mention that during the Zulu war we had in the 17th Lancers, on our arrival in this country, nose-bags of flannel issued, to filter the air at night and to prevent the horses from eating the dewy grass, but we did not find those which wore them less liable to sickness than those without them. This is not to be wondered at, for such contrivances are constantly getting out of order, and besides are obviously, when we consider how the disease is produced, imperfect and inadequate for the purpose intended. It is not, however, here denied that in some bad situations they might be useful. We may add that in the Zulu campaign the 17th Lancers lost very few horses from Horse Sickness, as it was not the season for it, and we were fortunate in the ground where the troops usually encamped.

"The morning dews have been blamed by shepherds for causing abortion and Anthrax Fevers, and those who attend the merino sheep in Spain do not turn out their flocks from January until June before the sun has dispelled the dew, for fear of the Basquilla, Anthrax Fever" ("Veterinary Sanitary Science and Police," vol. i.).

If you will, in the Horse Sickness season—and at other times too—get up very early and ride on the high hills around Pietermaritzburg, you will frequently see many of the valleys, and perhaps parts of the city itself, bathed in mist, which is of course charged with emanations from the soil over which it floats; and such being the case, we cannot be surprised that some stabled horses were last Horse Sickness season destroyed by the disease. The mortality among horses and mules in the valleys near Pietermaritzburg was great, though only what we should anticipate in an unusually bad Horse Sickness season, when we consider the nature of the malady.

The mists and fogs which hang over marshes and foul or swampy ground during the *night and early morning* are the most dangerous, because they carry the miasmatic poison-germs suspended in them; hence at this time it is perilous for animals to breathe them.

It may be asked, Why are not the mists on the hills also injurious? Because these are not charged with the results of drainage and putrefaction; and besides, they are simply formed by the vapour of the atmosphere being condensed against the cold tops of the mountains, and are quite different

from those coming from swamps and marshes. Of course, if there are swamps and marshes on mountains or high plateaux, such ground may be dangerous as well as that of valleys.

There is a vapour sometimes in the mornings about Curry's Post, where, Mr. Curry informs us, Horse Sickness, unless contracted elsewhere, never occurs. Here, however, the vapour is that of hills, for it is said to be one of the highest points of Natal. We would not be understood as saying that all wet or swampy ground is unhealthy; it would be unreasonable to think so; but at the same time we should avoid leaving our horses or mules in or near such places at night.

But Horse Sickness occurred last season on the rather high ground of Fort Napier, and how is that to be accounted for? Because that ground is, we think, for horses, foul ground; and besides, Fort Napier is not really high ground: it is only higher than the low-lying and notoriously Horse Sickness producing ground around it.

But why is ground that readily gives horses this disease not also injurious to men? Such a state of things as ground or locality being injurious to one kind of animal in one region, and not affecting other kinds, is common, just as this disease, Anthrax, in one region attacks one species of animal, while others escape, which readily take it in a different part of the globe.

The poison-germs of Horse Sickness may also, then, enter the body through the lungs from *foul* ground which is not necessarily marshy and swampy, or from ground near rivers and sluggish streams, pools, pans, etc.; but marshes and swamps have always been notorious for producing disease, as has also in many countries the ground near rivers. We must not therefore fall into the error of supposing it necessary that ground must be marshy to be malarious, for experience shows us all over the world that it may be so without stagnant water being present; but as a rule we find miasma where there is marshy ground or stagnant water, with decaying vegetable matter.

During the last wet season in Natal an extraordinary quantity of rain fell, and Horse Sickness was more destructive than had been known for years, and especially so about Pietermaritzburg. A great quantity of rain loosens and softens the soil, which being subsequently acted upon by the heat, emanations are developed and get liberty to rise in the air. Such experience, after very much rain succeeded by great heat of weather, is common to all countries where Anthrax prevails, and it is a practical fact that in this country Horse Sickness, *like Anthrax in other countries*, is everywhere more prevalent after a remarkably wet season. The wettest season in Natal is January, February, and March. All accounts here agree that Horse Sickness is most prevalent after a very wet season.

Prevention.

What do all these things teach us? They tell us in the most forcible manner that PREVENTION is much better than cure, and they urge us to take steps to place our horses and mules during the sickly season as much as possible out of the reach of the soil-developed poison, *especially during the night and early morning*, for these are the most dangerous times when the foul poison-germ-charged mists and dews are concentrated, and are not dispersed by the life-giving sun. When we can do this, as we often can, without interfering with the animal's daily work, it is an act of folly not to do so. If we do not, we cannot blame anyone but ourselves. If we have any number of animals, and some begin to be attacked by Horse Sickness, we ought *at once to remove the rest to fresh ground*, and it should be, if possible, high and dry, healthy ground, the higher the better, for these soil-developed

poisons appear only to be able to rise a certain distance from where they are usually produced.

One of the most valued practical remedies in countries where Anthrax is more common and more studied than here, is a change of attacked animals to fresh ground, and a move of the affected flock or herd of even a few hundred yards has often cut short a violent outbreak of the disease. It must not be thought that the removal is a failu e because a case occurs during the first day or two afterwards, because it may have been contracted on the old ground. But if cases continue after the first two or three days, another move should be made. We witnessed the great value of these recommendations this last season in Pietermaritzburg, but in Natal people frequently appear quite satisfied to make no change and do nothing, as if Horse Sickness were some mysterious and unknown disease, whereas, as we have before said, it is only a variety of a malady which has everywhere attracted much attention, and which is more widely diffused than any other with which we are acquainted.

We saw last season here a most destructive attack of Horse Sickness cut short by moving the animals less than three-quarters of a mile to very much higher ground, whence they did their ordinary work. With reference to this, we may again profitably say that it is most important to place the animals high enough to be out of the reach of the poison during the *most dangerous time, the night and early morning*, and also where such winds as there may be may have free play, so as to keep the air free from poison-germs. The animals can come and work in the low ground and towns during the day. The explanation for this we have already given.

We can readily conceive that, the poison being living germs—or, in other words, finely divided solid matter—it can probably only be carried in any quantity to a certain height in the atmosphere. "It is generally understood that an elevation of fifteen or sixteen hundred feet above marshes preserves animals from their influence, *but this differs very much in different regions.* At Rome, for instance, it is sometimes found that an elevation of one or two stories will preserve human beings from the ill-effects of malaria; while at Vera Cruz safety is not assured at less than two thousand feet above the malarial level" (Fleming's "Veterinary Sanitary Science and Police," vol. i.) The celebrated Professor Tomassi-Crudelli attributes the malarious fever, or Roman Fever as it is commonly called, to the presence of an organism to which the name of *Bacillus malariæ* has been given.

It appears to us exceedingly probable that nearly all—or all—of our so called specific diseases, of which Small-pox, Measles, Scarlet Fever, Typhoid Fever, Ague, Cholera, Diphtheria, etc., are examples, will be found to depend upon living poison-germs, and we believe the discovery—for most of them—to be a question of no very long time.

Where it is inconvenient or impracticable to change the situation of animals, as those working in towns, they should be fed during the sickly season on dry foods—oat-forage, mealies, bran, etc.—and no wet or freshly cut grass, or, better still, no grass at all, should be given. Horses and mules should also be kept from feeding on the "flats" or low-lying places while the dew is on the ground, and they should not be allowed to *feed on or near notoriously bad places at any time* during the Horse Sickness season. If horses must be grazed, they should not be turned out until the sun is high and the dew is *all dried* up, and they should be brought up some time before sunset. This plan can be easily followed with farm-horses. "The best plan with brood mares and those which are 'running' on the veldt is to take them up to the highest possible healthy ground during the sickly time" (Browning).

It is obvious that if animals are in stables or buildings located on or sur-

rounded by foul, or swampy, or marshy ground, or close to slow-running streams, they must be very liable to contract Horse Sickness during the sickly season. Such ground should be avoided as far as possible for camps, as also ground near rivers, sluits, ponds, pans, etc., if unhealthy-looking.

We would, then, in the most earnest manner, advise those who have horses or mules which they value to move them from dangerous situations, and especially if they have attacks among herds of animals. A height of a few scores or few hundreds of feet—the higher the better—may make an enormous difference; but even if there be no high ground an immediate change to a fresh and healthy situation is most desirable.

Recently we drove all along the road to Newcastle and back, and lost no opportunity of making inquiries from those likely to have experience about Horse Sickness whom we met on the road or coming from or going to the Free State and the Transvaal. Their experience, without exception, coincided with the above arguments, as does also that of very many other stock-owners with whom we have conversed on the subject in different parts of the country. Now, than this, it appears to us there could be no more conclusive evidence that Horse Sickness is a soil-produced disease.

We are informed that Weston, Mooi River, is a place free from Horse Sickness, unless the animal has brought the disease from elsewhere. People at the "Thorns," which are low-lying, send troops of brood mares in the Horse Sickness season to Weston, so that they may avoid it. They send so many, says Mr. Taylor, that between Mooi River and Harding's they were "thick;" and that for sixteen miles below Weston the ground is healthy, but farther on Horse Sickness occurs. Above Weston there are lots of swamps, but the very cold winds of the Drakensberg sweep over them, and very probably clear away or kill the germs of disease. All the ground from Karkloof to Bushman's River Hill, about nine or ten miles, and from the Drakensberg to about ten miles below Weston, is healthy—that is, a district about twenty miles wide, and fifty long. We give the above as one instance out of very many that have been furnished to us; and we may also add that at Lydenburg they cannot keep horses in the valleys in the sickly season: they put them for safety on the hills. So it is near the Biggarsberg and numerous other situations.

It is a popular opinion that Horse Sickness disappears after the first frost, but this is erroneous. The first few frosts certainly very greatly diminish it, but this year we had many undoubted cases in and around Maritzburg, which occurred subsequent to the first, and, in fact, several frosts. We account for the frost, or rather the cold, subduing Horse Sickness by its killing most of the poison-germs which cause the disease. We stated at the beginning of the paper that the scientific term for this parasite is *Bacilus anthracis*. Another name for the organisms which cause Anthrax is Bacteria. M. P. Miquel has recently stated, as a result of his investigations (Journal Chem. Soc., quoted in the *Veterinarian* for January, 1881), "The number of Bacteria present in the air is very small in winter, increases in spring, is still higher in summer and autumn, and decreases rapidly during hoar frosts."

Incubation or Hatching of Horse Sickness.

From the remark above made, that Horse Sickness is unknown in some districts unless the horse has brought it with him, it will be understood that the disease—after the poison-germs have been introduced into the system—has a period of incubation or hatching. This means that the poison-germs during this seemingly quiet time *rapidly* multiply themselves until they become so numerous that they most injuriously affect the blood, and consequently the whole system. This hatching is sometimes of short duration,

perhaps only a day or two; but oftener it is longer, three or four or more days. The longest period recorded in Anthrax is twelve days. After direct or experimental inoculation the disease is from twelve to thirty-six hours in showing itself. Of course direct inoculation produces it more rapidly than when it is contracted in the ordinary way.

In a recent paper on Horse Sickness, by Mr. Duncan Hutcheon, Colonial Veterinary Surgeon, Cape Colony, which appeared in the English VETERINARY JOURNAL for July, he narrates the inoculation of two horses and of two goats with a small quantity of the blood from two horses which had died from Horse Sickness. The inoculated animals in a few days died. More experiments in this direction will perhaps soon be made.

While alluding to inoculation, it may with great advantage be related here that the celebrated French professor M. Pasteur announced at the recent Medical Congress in England that the parasitic organism the *Bacillus anthracis*, from the bodies of Anthrax-destroyed animals, can be so cultivated in the laboratory, in successive generations, as to destroy almost all its poisonous property. It is in this condition used to inoculate healthy animals as a protective or preventive measure; and of fifty sheep given for the experiment, twenty-five received this protective inoculation, and twenty-five were left alone. In a fortnight afterwards all the fifty were inoculated from other virulently infected sheep: the twenty-five previously protectively inoculated ones suffered scarcely at all, the twenty-five others all died within fifty hours. This discovery, towards which the famous veterinary professors MM. Chauveau and Toussaint have much contributed, opens up a wide field for beneficial research in both *human* and *animal* medicine; indeed, it may revolutionize both, and be pregnant with the most important consequences to their welfare. It may be, and probably will be, applied to other contagious and specific diseases as well as Anthrax, and it may prove to be "only second in point of value to the discovery of means by which the germs of disease can be completely and totally annihilated." What a vista is here presented for experiment and hope!

Query: May not some of the mysterious diseases of sheep, and cattle, and fowls in this colony be Anthrax? It is not at all unlikely, especially in sheep.

Symptoms of Horse Sickness.

A horse or mule often goes to work or exercise apparently quite well, and after being out for a time—the exercise would seem to stimulate the development of the disease—he suddenly begins to "blow," that is, to breathe in an alarming manner, the eyes appear ready to start out of their sockets, and in some cases there is swelling of the eyepits; the pink membrane lining the eyelids is of a deep red colour, and often has claret-coloured spots upon it. Frequently a yellowish froth, sometimes tinged with blood, comes from the nostrils, suffocation appears imminent, and, in fact, death rapidly ensues, sometimes in as short a time as ten minutes or quarter of an hour, but usually much longer. At other times the disease comes on more quietly: the horse is dull and sluggish, does not feed with his usual appetite, and there are often pains indicative of colic, the animal lying down, rolling about, and pawing. These latter cases last much longer than when the disease chiefly locates itself in the lungs, not, however, as before explained, causing inflammation of them. What we may designate the colicky cases of Horse Sickness, in which the disease has chiefly located itself in the intestines, may last even so long as two days.

It has just been said that death may occur in so short a time as ten minutes or a quarter of an hour from the time the malady was first noticed; but it is probable that a careful observer would have detected that the animal

was not previously in his usual health and spirits, and no doubt the use of the clinical thermometer would have shown by the rise in temperature that something was very wrong.

Sometimes the disease shows itself in other forms than those just described, and receives the name of Dikkop, from swelling of the head; Black Tongue, which conveys the origin of the term; and Throat Sickness, in which there is much swelling about the jaws and throat, the same as in that form of Anthrax called Loodiana Fever, which so fatally attacks horses in India.

In some countries and in some animals, external swellings and tumours are often seen in cases of Anthrax.

We may add that in the sickly season many fatal cases are by the unskilled erroneously attributed to Horse Sickness, which is a convenient explanation of the cause of death.

It should here be remarked that, in so far as it goes, in his excellent Report on Horse Sickness, which appears in the "Natal Almanac" for 1879, Mr. S. Wiltshire, Colonial Veterinary Surgeon, identified the disease as—what it is—Anthrax.

Treatment.

Various are the nostrums and so-called remedies for Horse Sickness, but it is not our intention to here enter deeply into the comparatively unprofitable subject of treatment. Our great object in writing this paper is to advocate rational measures of PREVENTION.

The disease is usually so far advanced before it is detected that medical treatment only too often affords little ground for hope and especially so if there is much frothing from the nostrils, which, unless it speedily ceases, will quickly suffocate the animal. But while there is life there is very often hope, therefore we should persevere and do what we can.

The treatment we are most in favour of, which we have found most successful, and which can be scientifically defended, is the administration, three times a day, of one drachm to one drachm and a half of No. 2 Carbolic Acid in a pint of cold water. At the same time the animal must be placed in a comfortable situation, with *good nursing* and sanitary arrangements, and food and drink suitable for a sick animal should be given. In all cases we should advise, when practicable, hot fomentations, by means of rugs dipped in the water and applied to the chest and abdomen. The water must not be made so hot as to scald or inconvenience the patient. We do not recommend blistering these parts.

Salted Horses.

A paper on Horse Sickness would be incomplete without saying that horses and mules become what is here termed "salted," which means that, either from having had an attack of the disease or from being long acclimatized, they are not liable to take it. There is nothing wonderful in this: we see the same protection conferred in many different diseases, especially of mankind. Some individuals will not "take" a disease, however much exposed to it, and some will only contract it in a mild and transient form. Numerous instances have occurred where *so-called* "salted" horses have suffered a supposed second attack, but we do not know whether these animals had really been previously affected by Horse Sickness, and, as a better price is thereby obtained, it is not impossible that some animals are erroneously described as "salted." It is remarked by many that salted horses often have an unthrifty appearance, and our belief is that many horses and mules pass through the disease *in so mild a form* that it is scarcely, if at all, noticed by those attending them.

Concluding Remarks.

It is hoped that what has here been written may be sufficient to dispel some of the apathy and despair which have hitherto existed about Horse Sickness, and that the practical and, in other countries, well-known preventive measures we have described may be adopted here, and especially so as little or no interference with the animal's ordinary work is thereby produced. If we will not use rational measures to prevent disease, we cannot be surprised if we suffer for our neglect.

A very famous veterinary surgeon, Professor John Gamgee, whose reputation is world-wide, has recently written, "Mystery in relation to animal plagues is a convenient word with which to cloak ignorance. The plagues of the world are fast becoming the best understood of all diseases. Their prevention can surely be obtained by scientific methods, strikingly in contrast with the means of cure so advantageously and now so wisely regarded as of secondary importance."

We beg to commend these pregnant words to the consideration of all who are interested in the well-being of South Africa. After a practical acquaintance with many countries, we know none where the prevention of disease among the domesticated animals is so much neglected as in Natal and the neighbouring States, and where such enormous losses are annually incurred through disregard of the simplest and most obvious precautions.

AMYLOID INFILTRATION OF THE LIVER OF A HORSE.*

BY ALEX. GREY, M.R.C.V.S., DEMONSTRATOR OF PATHOLOGICAL HISTOLOGY AT DICK'S ROYAL VETERINARY COLLEGE, EDINBURGH.

THIS disease must be somehow overlooked in veterinary practice, as we never read of any cases in our journals, etc. In fact, the only veterinary author who mentions it says that, out of a number of cases which gave appearances leading him to believe that the organs were the seat of amyloid degeneration, he only obtained *one solitary* instance where he considered himself justified in coming to the conclusion that he had amyloid degeneration to deal with, such conclusion being deduced from using the well-known iodine test.

This disease is a very common one in the human subject, and it is a notable fact that it is most frequently seen in connection with long-continued and extensive suppurations. According to this observation, we, as veterinary surgeons, should expect to have more cases of this disease come under our notice, as the conditions with which it is so commonly associated are very frequently met with in our patients.

We cannot carry out, as regards our patients, the strict Lister treatment now extensively practised in almost all our infirmaries; yet there are a great number of cases of amyloid degeneration in the human being, and comparatively few in our practice.

Some one may say that the lower animals are not so prone to this disease as the human subject; but it occurs to me that many more cases in the lower animals would come to light if those who were making *post-mortem* examinations thoroughly knew the proper method of proving an organ to be affected, and were also cognizant of the reaction given by the use of chemical reagents, such as the so-called solution of iodine.

The portion of liver which I have now before me was taken from a draught-

* Read at the meeting of the Scottish Metropolitan Veterinary Medical Society on Nov. 30th.

horse which was slaughtered on account of extreme emaciation, brought about in the first instance by an extensive and long-continued suppurating wound in the region of the hip joint, and in the second by the liver tissue being destroyed. Thus all the food he ate did him no good; he gradually became poorer and poorer in condition, till he went down and was unable to rise, and consequently fell into the knacker's hands.

This is the history of the case as I got it—not much, certainly, but enough to show that the lesson I have before me was in connection with a suppurating wound, thus tallying to a nicety with what we find in the human subject.

The wound in this case was not extensive at the time of slaughter: it had almost healed. So it cannot be said that the progressive emaciation was actually caused by a drain on the system, as the result of the said wound.

The cause of this progressive emaciation I will explain farther on: in the meantime I will proceed to describe the naked-eye appearances of the affected organ.

The liver was much larger than normal; it was bulky and pale in colour; when laid on a flat surface its margin would not come in contact with what it lay upon; the edges were extremely thickened and rounded; the capsule appeared as if it was very much too small for the organ it contained, as it was tense, and consequently very much stretched, and looked as if it had been coated over with varnish. The specific gravity and absolute weight of the organ were increased. Upon pressure with the finger the tissue pitted, but the pit-mark quickly disappeared; thus differing from fatty degeneration, where the pit-mark permanently remains.

The lobules were distinctly mapped out, giving the whole organ a mottled appearance, like a section of nutmeg. In fact, it looked very like the so-called nutmeg liver, and might readily have been mistaken for that condition, except that in this case the organ was anæmic, whereas in nutmeg liver, or, as it is more technically known, "cyanotic atrophy," the organ is always congested.

"Nutmeg liver" is a bad term to apply to any special lesion in the liver, since we get a nutmeg appearance in *fine Cirrhosis, fatty infiltration, cyanotic atrophy, amyloid degeneration, and in the livers of subjects which have been killed during digestion.*

The term "nutmeg liver" gives us no more idea of the disease than simply letting us know that the periphery of each lobule is lighter in colour than the centre; not taking into consideration whether it is an abnormal darkening of the centre with a normal periphery, or an abnormal whiteness of the periphery with a normal coloured centre.

On section, the organ was very anæmic; a very small quantity of blood could be squeezed out of the vessels, and the cut surface had a peculiar blue, smoky tint, somewhat similar to the colour of the urine in Hæmaturia. On close inspection the lobules showed that in the region of the hepatic artery there was a peculiar semi-translucency, which extended well into the portal vein zone. The hepatic vein zone was much darker; hence the characteristic mottled appearance already described.

By pouring over the cut surface a solution of Liquor Iodi., consisting of Sublimed Iodine, grs. xx., Iodide of Potassium, grs. xxx., and Water, ʒvi., the semi-translucent portion becomes stained a dark mahogany-brown colour, thus causing the cut surface to become still more distinctly mottled. The lighter-coloured portion is now transformed into a much darker colour than the normal tissue, which is just the reverse of its condition before the addition of the iodine.

Iodine staining solution, although an old one, is a very sure test at the autopsy; and when one reads about sulphuric acid in addition to the above, to give a blue reaction, he must remember that these two agents, when used

conjointly, are only employed as a microscopical test. Hence, to get good results by the use of these two reagents, a thin section is required, which must be steeped in the iodine solution, thence removed to a slide, and focussed under the low power, say a diameter of 60; a drop of strong sulphuric acid is then allowed to trickle down the slide until it comes in contact with the specimen, the eye at the same time being applied to the ocular. If these instructions are faithfully carried out, there is no difficulty (as is stated in most works on the subject) in getting the blue colour just at the edge of the specimen, where the sulphuric acid comes in contact with the iodine. The blue colour very soon becomes black.

On account of the different reactions obtained by various reagents, diverse opinions have been formed as regards the chemical composition of this amyloid material. Virchow thought it was of the nature of vegetable starch, because of the reaction with sulphuric acid and iodine. Meckel thought it was related to cholestrine, because cholestrine crystals gave the same reaction. Dickinson, of London, believes it to be of the nature of fibrine deprived of its alkaline salts. As yet the product is not thoroughly known, but most pathologists nowadays agree that it is an albuminoid material somewhat altered in composition.

Let us now leave the subject as we see it with the naked eye, and proceed to examine it microscopically. On procuring a thin section (such as is under No. 1 microscope), we see an unstained specimen. In the hepatic artery zone may be seen the amyloid material as a semi-translucent substance, having the appearance of ground glass. Externally, in the portal vein zone may be noticed a few fatty globules, while the hepatic vein zone is seen to be normal.

On application of the iodine solution to the section, we get the same characteristic appearance we saw with the naked-eye test, viz., a mahogany-brown colour to all abnormal parts (*with transmitted light only*). Such may be seen under microscope No. 2.

By discarding the mirror, as has been done with microscope No. 3, and using the condenser or even strong direct light, the abnormal portion becomes of a dark-red colour, while the normal tissue has a yellowish tint.

From the foregoing it can be seen that the iodide of potassium solution is a very useful one, both at autopsy and microscopic investigation; but we have at our command a still more delicate microscopical test, viz., methyl-aniline violet. This is a cheap substance, but requires careful manipulation to obtain good results. We are indebted to Jurgens and Cornil for first describing its results. Methyl aniline is a superior staining agent, in many ways, for microscopical purposes, compared with iodine; the most notable being that it is a permanent dye, whereas iodine, having a tendency to evaporate, can only be considered as a temporary agent.

The solution of methyl aniline required should be transparent in an ordinary six-ounce bottle, and the specimens, which must be in very thin sections, should be allowed to remain in the solution for about twelve hours; taken thence, the superfluous staining requires careful washing off with *methyl alcohol*, when the results will be obtained that are seen under microscope No. 4. The waxy material is stained a beautiful pink tint, whereas the normal tissue is of a slaty-blue colour.

In the specimen an arteriole and vein may be seen in close proximity. They are easily recognized, as the media of the artery is always pink, while the vein is blue; thus indicating that the disease primarily begins in the muscular fibres of the smallest arterial branches, the endothelial coat not being affected. These results may be obtained when no other portion of the organ shows any signs of disease.

Why this amyloid material has the power of decomposing methyl aniline

into two tints is not exactly known. Probably this is because we do not as yet thoroughly understand the chemical composition of the former material.

It was formerly universally taught, and indeed is still in the recent editions of many standard works, that the amyloid material extends from the media, invading tissues such as the liver, filling the cells until they become distended, pushing their nucleus to one side, destroying their protoplasm, and converting them into amorphous blocks, and thus doing away with their functional activity.

By the use of methyl aniline, we now know that this amyloid material becomes deposited *between and around the cells.* It insinuates itself, so to speak, *and mou'ds itself to any form it can acquire; and by this insinuation and deposition it exerts pressure on the cells from all sides, thereby causing them to undergo atrophic changes, the result of which is their disintegration and death.* Hence the reason why an entire organ such as the liver may be in a high state of atrophy, and yet be much larger than the normal organ; in other words, the new growth exceeds in amount the quantity of normal tissue it destroys.

We never see the liver cells containing amyloid matter in the early stages. It is only when the entire lobule has almost become totally infiltrated, that *here and there* a liver cell shows that it has become affected by imbibition of this material.

It is not difficu't, then, to account for the emaciation previously mentioned, when we find that the liver has become converted into an amyloid mass.

The liver cells having become destroyed by pressure, and the arterial coats also destroyed, we can have no difficulty in coming to the conclusion that the functional power of the organ is also destroyed. Hence the reason why we get the emaciation following. In fact, this is the only clinical symptom, apart from physical signs of enlargement, which leads the practitioner to assume that such lesions are taking place in the different organs; and as this lesion is not a very easy one to detect at *post-mortem* examinations, unless the eye has been educated to it, it is very easy for the practitioner to miss it, and thus find himself at sea as regards accounting or the true cause of the observed progressive emaciation, in spite of all his efforts to cause the animal to put on flesh.

NEW VETERINARY SCHOOLS.

In connection with the Minnesota College Hospital, Minneapolis, Mr. J. C. Lyford, M.D., late professor at the Montreal Veterinary School, and who made a favourable impression during his visit to England about three years ago, has opened a school for instruction in veterinary medicine and surgery. A competent staff of teachers in these subjects has been engaged, and the period of instruction is to extend over three winter sessions of six months each.

On October 1st, at Lemberg, Poland, a new veterinary school was opened, under the direction of Dr. Seifmann, of the Kazan Veterinary School, with Drs. Baranski and Kaydi as professors.

Proceedings of Veterinary Medical Societies, &c.

ROYAL COLLEGE OF VETERINARY SURGEONS.

QUARTERLY MEETING OF COUNCIL, HELD JANUARY 3RD, 1882.

The President, GEORGE FLEMING, Esq., in the Chair.

Present:—Professors Brown, Robertson, Walley, Williams; Messrs. Anderton, Batt, Blakeway, Cartwright, Coates, J. Collins, P.V.S.A., Dray, Dun, Gowing, Greaves, Harpley, Morgan, Reynolds, Simpson, Taylor, Whittle, Woods, Wragg.

The SECRETARY read the notice convening the meeting.

The minutes of last meeting were read, and, as amended, approved.

Presentations to the Library.

The SECRETARY announced the following presentations to the Library: "Journal of Medicine according to Dosimetric Method," by Dr. Phipson. "An Address at the National Veterinary Congress," and a pamphlet "On the Veterinary and Medical Arts," by Mr. James Cowie.

Several pamphlets "On Milk and Feeding Experiments," by Dr. Voelcker.

On the motion of Mr. DRAY, seconded by Mr. BLAKEWAY, the thanks of the Council were awarded to the several donors for their presentations.

The PRESIDENT announced that Mr. Gowing had also made a presentation, in the shape of a very handsome album, in which to insert the portraits of those members of Council who had assisted in obtaining the Veterinary Surgeons Act, so that they should be remembered hereafter.

Mr. DRAY proposed, and Mr. TAYLOR seconded, a vote of thanks to Mr. Gowing, which was carried by acclamation.

The PRESIDENT presented, on behalf of Mr. Anderson of the Royal Artillery, a pair of elephant's pads, one the fore and the other the hind pad. The existence of Foot-and-Mouth Disease in this animal had been known for some time, but these pads gave direct evidence of it. The elephant from which the pads had been taken had died from the loss of them in Afghanistan. He (the President) also presented to the Library a copy of the Dentists Act. It had been said by a member of Council that the Veterinary Act was only a copy of the Dentists Act, and was therefore worthless; but any one perusing the Act would see that such a statement was not correct.

The thanks of the Council were given to Mr. Anderson and the President for their presentations.

Correspondence.

Letters were read from Mr. Freeman and Mr. Cox, regretting their inability to attend the meeting.

Letters were received from Professors Brown, Simonds, Cobbold, and Pasteur, acknowledging their election as honorary associates, and tendering their best thanks to the Council.

The SECRETARY announced that several letters had been addressed to the President, supporting the Veterinary Surgeons Bill. Amongst others, Col. Kingscote, C.B., M.P., wrote, promising to do all he could to promote the measure. Such a bill, he stated, had long been wanted, and if Lord Aberdare could be induced to take charge of it in the House of Lords, and it were well supported, he had no doubt it would pass.

The PRESIDENT said his object in bringing the matter forward now was to express his regret that it had not been alluded to by him at the last meeting. He (the President) had lately seen Col. Kingscote, and learnt in the course of conversation that he had been largely instrumental in removing

the opposition of Messrs. Whitley and Cowan, M.P.'s, two gentlemen who were the most formidable opponents of the Bill. Seeing the great interest Col. Kingscote had manifested in the matter,—writing with regard to it even when ill in bed,—and the influence which he was capable of exercising on behalf of the profession, he thought they were very largely indebted to him, and he should very much like the Council to offer him a vote of thanks for his efforts on behalf of the Bill.

On the motion of Mr. DRAY, seconded by Mr. CARTWRIGHT, a vote of thanks was cordially awarded to Col. Kingscote.

The PRESIDENT said it had been rumoured that, in conjunction with Professor Brown, Professor Robertson had been chiefly instrumental in having the Act passed, and though he was unaware of the fact, yet, if true, he was sure the Council would accord a vote of thanks to Professor Robertson.

Professor ROBERTSON said he was not aware that he had any thanks to receive, as any service which he might have rendered was merely as a member of the Council.

The PRESIDENT said he only mentioned the matter from a desire that the services of every one should be generously and fully acknowledged.

The following letters were received from the Lord President of the Council and the Right Honourable A. J: Mundella, and it was resolved that they be entered on the minutes.

Privy Council Office,
19/10/81.

Sir,—I am desired by the Lord President to thank you for your letter of the 13th inst., and to say that his Lordship hopes that the measure will be of service to the veterinary profession.

I am, sir,
Your obedient servant,
(Signed) JOHN R. DASENT.

A. W. Hill, Esq.

Education Department, Whitehall,
3rd November, 1881.

Sir,—I have the honour to acknowledge the receipt of the letter of thanks of the President and Council of the Royal College of Veterinary Surgeons for the assistance I was so glad to be able to render in the passing of the Veterinary Surgeons Act through the House of Commons. It was a task of much greater difficulty than I anticipated when I first undertook it, but I am thankful that it was successfully accomplished, and that my labours have merited the approbation of the Royal College of Veterinary Surgeons.

I am, sir,
Your faithful and obedient servant,
(Signed) A. J. MUNDELLA.

A. W. Hill, Esq.,
Secretary of the Royal College of Veterinary Surgeons.

A letter from Mr. Mayer, proposing an alteration in the date of the examination for the Royal Agricultural Society's prizes, was read.

After some conversation, it was resolved that the examinations be held in January, as heretofore, and that Mr. Mayer be written to that effect.

A letter was read from Mr. Morgan, desiring to be informed in what manner he had obstructed the Veterinary Surgeons Act.

Report of the Finance Committee.

The report stated that the vouchers and receipts for payments had been

examined and found correct. Cheques were ordered to be drawn for the current expenses.

It was resolved, on the motion of Mr. DRAY, seconded by Mr. TAYLOR, to invest £300 in the 3 per cent. Consols.

The Obituary Notice was read.

The Registration Fee, under the Veterinary Surgeons Act.

The SECRETARY read a letter which he had been instructed to address to the Privy Council, and the reply that had been received, and which was as follows :—

Veterinary Department, Privy Council Office,
44, Parliament Street, Westminster, S.W.,
5th December, 1881.

Sir,—I am desired by the Lords of the Council to inform you that they have had under their consideration your letter of October 10th, submitting for their Lordships' approval the proposed fee of six guineas for the registration of Colonial and Foreign Veterinary Surgeons, and of existing practitioners in this country, together with the statement of the grounds on which the Council of the Royal College had fixed the amount of the fee, as set forth in your letter to the Lord President of November 18th.

In coming to a decision upon this question, their Lordships have felt it to be their duty to give the fullest consideration to the case of the existing practitioners, and they feel that the imposition of anything approaching to a prohibitory fee would not only be contrary to the intentions of Parliament and to the general understanding on which the 15th Section of the Act was adopted, but would, as their Lordships believe, be contrary to the interests of the Royal College itself. The number of existing practitioners is stated to be very considerable, and it has been represented to their Lordships that the imposition of a fee of six guineas would probably have the effect of deterring the greater number of them from availing themselves of the privilege which has been accorded to them by the Act, and of the benefits resulting from registration.

It is manifestly desirable that as large a number as possible of these practitioners should be placed on the Register (subject, of course, to the power vested in the Council of the Royal College, with the approval of the Privy Council, to exclude any individual who may be clearly ineligible), and their Lordships are satisfied that the increased numbers registered under a moderate fee will more than compensate for the loss resulting from the disallowance of the higher fee. Under these circumstances, their Lordships are not prepared to approve of the proposed six-guinea fee; but I am to add that they would be willing to sanction a fee of *three guineas* for the registration of all existing practitioners who may apply for registration *before the 1st April* next, and of a fee of *six guineas after* that date.

With regard to Colonial and Foreign Veterinary Surgeons, their Lordships are of opinion that a uniform fee of *five guineas* should be adopted.

I am, sir, your obedient servant,
C. L. PEEL.

The President, Royal College of Veterinary Surgeons,
10, Red Lion Square, W.C.

The PRESIDENT explained that on the 8th of November he had a long interview with Lord Spencer, and they fully discussed the question of the registration fee. He (the President) maintained as long and as strongly as he possibly could the necessity for the fee being six guineas, but his Lord-

ship thought that, seeing there was such a large number of unqualified practitioners, six guineas would be too large a sum to demand from them. At the request of the Lord President, he submitted a report in writing as to the additional expense the registration of these men would cost the College, and the letter from the Lord President (which had been read) was the result. He (the President) thought that the concession on the part of the Privy Council was favourable, and that it should be accepted.

After some conversation, it was resolved that advertisements having reference to the Act should appear in the papers in which the annual meeting was announced, and that the form of advertisement be left in the hands of the Registration Committee.

The PRESIDENT said that, to facilitate the work of the Committee, he had drawn up printed forms for applicants for registration.

In answer to some questions as to the time a candidate for registration ought to be in practice,

The PRESIDENT said that that must depend upon the decision of the Council. The words of the clause were very exact—that a candidate must have practised veterinary surgery continuously for five years.

Mr. TAYLOR thought that the Council ought to be liberal in their construction of the Act.

Examinations.

The SECRETARY announced that the examinations in London would commence on the 5th instant, and in Scotland on the 12th instant.

Report of the Examination Committee.

The SECRETARY submitted a report of this Committee, and said that a copy had been sent to the several schools, since when several alterations had been made, which he would read to the Council.

The SECRETARY then read the report with the proposed alterations.

Professor WALLEY asked if those who accepted certificates from different bodies passed the fellowship as well as the membership examination.

The PRESIDENT said that this had not been decided by the Committee.

Professor WALLEY inquired if the Pharmaceutical Society's certificates would admit a candidate going in for fellowship.

Professor ROBERTSON said there seemed to be a little misunderstanding, but he would subsequently hand in a written alteration, which he thought would meet the difficulty.

Professor WALLEY expressed his intention of most decidedly opposing the proposition that there should be only two examinations in the year, instead of three. Considering the increased demands made upon students, and all the expenses they were put to, especially those who were unfortunate enough to fail once or twice, he thought they should be given as much facility as possible. Even supposing there were to be two examinations, he apprehended that April would be a better period than July; but he thought it would be wrong to put those men back for six months, and give them no intermediate time.

Professor WILLIAMS supported Professor Walley's views. He thought it would be unjust if the students could not present themselves three times a year. The fees were quite sufficient, and so long as they paid for their examination they ought to be allowed to present themselves as much as possible. He moved that the number of examinations remain the same as at the present time.

Professor WALLEY seconded the motion.

Professor ROBERTSON said he had examined students for twenty years and upwards, and he did not think the hardship was so great as had been

represented. For teaching purposes he considered it was rather a drawback to have so many examinations, and he thought it would be better to do without the Christmas examination. He should support the report of the Committee.

Mr. P. TAYLOR wished to know, before the alteration was submitted to the Council, the reason why two examinations were proposed instead of three. He wished in every way to assist unfortunate men, but at the same time a duty had to be performed to the Council.

Mr. COLLINS thought that one of the principal reasons was on account of the expense, but that it would not interfere with the professional course. He did not think it would be a very great hardship if a student failed in his examination, to compel him to go through six months' study in order that he might obtain his diploma as soon as he possibly could. He thought if it could be conveniently arranged with the schools it would be better, as the Committee had reported, that there should be two examinations.

Professor WALLEY asked if there had been any pecuniary loss on those examinations.

The PRESIDENT said that there were the travelling expenses for three instead of two examinations. The three examinations had been quite an innovation in Scotland, having only been adopted recently. If they had been so essential, surely they would have been adopted in Scotland before. When he was a student a candidate who failed was put back for a year. As far as his experience went, rejected students had been all the better for their rejection.

Professor WALLEY pointed out that the number of students had increased in Scotland since the time spoken of by the President.

Professor WILLIAMS thought the abolition of the April examination would be most inconvenient, as it would alter the course of teaching.

Mr. FINLAY DUN did not think that any evil would accrue from the suppression of one of the examinations, as mentioned in the Report.

Mr. COLLINS proposed that the matter should be left for the decision of the Committee, and to ask the principals of the schools to give their reasons why they should desire three examinations; and if they made up their minds for such examinations, to state what months would be most convenient for them.

Mr. TAYLOR seconded this proposal, which was agreed to.

In regard to the proposal of the Committee, that the practical examination should be concluded before the oral,

Professor WALLEY said it was distinctly considered by the Council, before the matter was put to the Committee, that the oral should precede the practical, and he did not see any necessity for altering it.

Mr. COLLINS thought the question was one for the examiners to decide.

Professor WALLEY maintained that it would be far better in every sense of the word that the oral should precede the practical, because if a candidate passed in his oral and failed in his practical, he could then go where he chose and gain his practical knowledge.

Mr. DUN thought it was a matter of secondary importance which part of the examination should be taken first.

After some conversation,

Professor WILLIAMS proposed that the oral examination precede the practical.

Mr. WOODS seconded the motion.

Mr. COLLINS proposed, as an amendment, that the rule stand as at present.

Mr. TAYLOR seconded the amendment.

On being put to the meeting, twelve voted for the amendment and eight against it. The amendment was, therefore, declared carried.

The recommendation of the Committee, that in 1883 each student be examined for fifteen minutes with each of the four examiners at the practical examination, was adopted on the motion of Mr. COLLINS, seconded by Professor ROBERTSON.

Mr. HARPLEY gave notice that he would propose at next meeting an additional Examiner for the Morbid Anatomy and Pathology table, as recommended by the Committee.

Matriculation Examination.

The SECRETARY read the Report of the Examination Committee on the Matriculation Examination.

Professor WALLEY proposed that the Examination Committee Report be taken as it stands, with the exception of the alteration in regard to the certificates.

Professor ROBERTSON explained his intended alterations, and

The SECRETARY read the clause, as amended, as follows:—

"Or a University degree of M.A. or B.A., or a certificate of the Local Examinations of the Universities of Great Britain and Ireland, or a certificate of efficiency from any other recognised examining body, this certificate to include the obligatory subjects, either for membership or fellowship already mentioned."

Mr. DRAY proposed that the alteration be accepted by the Council.

Professor WALLEY seconded the motion, which was carried.

In answer to Professor Walley,

The PRESIDENT stated that the date at which the regulations were to come into operation was January, 1883.

Mr. P. TAYLOR objected to the words in one of the clauses—"And that the time allowed a candidate between the date of his obtaining the Education Certificate and the date of presenting himself for examination by the Royal College of Veterinary Surgeons should not exceed five years." With regard to the five years, if a candidate paid his examination fees and passed the Board he had a right, when he chose, to go in for the whole curriculum of study. He proposed that the part referred to be expunged.

Professor WALLEY seconded the motion.

Professor WILLIAMS remarked that a man might forget all he had learned in five years. He was sorry to oppose Mr. Taylor, but he would support the recommendation of the Committee.

After some further observations Mr. Taylor's motion was put and carried.

Professor ROBERTSON proposed the expunging of the following paragraph:—"That the examinations be conducted—in England, by the College of Preceptors; in Edinburgh, by the High School; in Glasgow, by the High School; and a sum not exceeding £1 1s. to be paid for the examination of each student." He saw no reason for such a provision, because the Council were actually asking for a certain examination, and ordering some other person to do it. He thought this appeared to be a little harsh. He, therefore, proposed that the whole of the paragraph be expunged, as he saw no need for it.

Mr. TAYLOR seconded the motion, which was carried.

In answer to Professor Walley,

Professor ROBERTSON said the effect of expunging the paragraph would be that the examinations would be conducted by any recognised examining body.

Mr. MORGAN proposed that the whole of the Report of the Examination Committee be referred back, and a copy of the resolutions be handed to

each of the members before the next meeting, in order that they might understand the subject. He confessed he did not understand it.

Professor WALLEY proposed that the Report, as amended, be received by the Council.

Mr. TAYLOR seconded.

The PRESIDENT thought it would be better to refer it back to the Committee, and leave them to draw up a list of the Examining Bodies. This was not a hard-and-fast regulation, and could be altered as circumstances required.

Professor WALLEY'S motion—"That the Report, as amended, be adopted"—was then put and carried, as was also a proposition made by Mr. DUN, and seconded by Professor WALLEY—"That the Examination Committee draw up a list of the Examining Bodies"

The PRESIDENT wished to obtain the opinion of the Council as to whether an Examiner who was elected President of the Council should resign his examinership. There was no by-law or regulation referring to it.

The COUNCIL were of opinion that the President should continue as Examiner.

The New Register.

The SECRETARY produced a proof of a new Register for the inspection of the Council.

Report of Parliamentary Committee.

The SECRETARY read the Report of the Committee.

The PRESIDENT, referring to a motion of Mr. Morgan, said that he had a legal opinion with regard to the powers contained in the Charter as to the removal of members of Council who absented themselves, to the effect that under the 15th paragraph there was ample power to remove such members.

New Building for the College.

In reference to obtaining Government assistance for this purpose,

The PRESIDENT detailed what occurred at the interview he recently had with Earl Spencer, who seemed favourably impressed with the representations made to him on behalf of the profession. A deputation, among whom were many eminent and scientific men outside the veterinary profession, was arranged to wait upon his lordship on the 5th of December, again on the 15th, and again on the 12th, but the appointments were deferred, owing to pressure of business, until after the meeting of Parliament. He (the President) thought this would be a more suitable time, since there would be a chance of having the attendance of many members of Parliament, as well as others, who, combined, would render the deputation a very influential one. He proposed that the memorial he had drawn out, and which was now presented to the Council, be forwarded to each gentleman who proposed attending the deputation, so that he might be better prepared to speak on any of the several points. He would also endeavour to ascertain on what day Earl Spencer would find it convenient to receive the deputation, which Lord Aberdare would probably introduce.

On the motion of Mr. COLLINS, the Committee were asked to proceed with the matter without further notice to the Council.

It was agreed that the further discussion of the Parliamentary Committee's Report be deferred to the next meeting of the Council.

The SECRETARY read a notice of motion made by the President with regard to an alteration of By-law 30, intended to meet the requirements of the Matriculation Examination.

Discussion on this was deferred until next meeting.

The PRESIDENT gave notice of motions with regard to other By-laws.

Auditors for 1882.

Mr. Alfred Broad and Mr. Joseph Woodger, jun., were elected Auditors for the ensuing year.

Appointment of Registrar under the Veterinary Surgeons Act, 1881.

Mr. DRAY proposed the appointment of Mr. Hill (the Secretary) as Registrar, and that the allowance for such office be at least £40 per annum. Considering the accumulation of work Mr. Hill had to contend with, he (Mr. Dray) thought that the sum proposed was a very small compensation.

Mr. BATT seconded the motion, expressing his opinion that, considering the work had lately so much increased, the sum proposed was too small.

The PRESIDENT corroborated the opinions of the previous speakers. Comparing the work of the Secretary now with what it was six or seven years ago, it had almost doubled.

Mr. Dray's motion was then put and carried, viz: That the Registrar. receive an "annual payment of not less than £40, to be retrospective from the 27th of August last."

Mr. HILL, in appropriate terms, thanked the Council for the appointment.

A hearty vote of thanks to the President terminated the proceedings.

IRISH CENTRAL VETERINARY MEDICAL SOCIETY.

ON Monday, January 9th, 1882, the preliminary meeting of the above society was held at the Hibernian Hotel, Dawson Street, Dublin. The following members of the profession attended:—Messrs. T. D. Lambert, P. A. Lawlor, L. Hunter, A. G. Ross (A.V.D.); W. C. Joseph; J. J. Sperring, G. B. Miller, H. Ashbee, F. T. Welham, Matt. Hedley, R. Ebitt (Dundalk); J. Malcolm (Enniscorthy); T. H. Simcocks (Drogheda); W. Pallin (late 20th Hussars); A. J. Kelly, T. G. Tuite.

Letters of apology were read from several gentlemen who had received circulars, but who were unable to be present. All, however, with two exceptions, expressed a desire to have their names enrolled as members of the society.

The following officers for the ensuing year were unanimously elected:—Messrs. T. D. Lambert, F.R.C.V.S., President; A. G. Ross, M.R.C.V.S. (A.V.D.), Thos. H. Simcocks, M.R.C.V.S., John Malcolm, M.R.C.V.S., Vice-Presidents; J. J. Sperring, M.R.C.V.S., Secretary and Treasurer.

A code of rules for the regulation of the business of the society was drawn up and passed, and it was decided that the regular meetings of the society be held quarterly.

George Fleming, Esq., F.R.C.V.S. (A.V.D.), and Professor Ferguson, Her Majesty's Veterinary Surgeon in Ireland, were unanimously elected Honorary Associates of the society.

The first regular meeting was to take place on Monday, January 30th, at 13, Dawson Street, when the business was to be the inaugural address by the President, and the election of additional members, whose names were sent in, in addition to those whose names were enrolled at the preliminary meeting. There were then thirty subscribing members, and the society bids fair to become a most successful undertaking.

After the meeting the members present supped together, and a most enjoyable evening was spent.

J. J. SPERRING, M.R.C.V.S., *Secretary and Treasurer.*

NORTH OF IRELAND VETERINARY MEDICAL SOCIETY.

A MEETING of the above society was held in the Thistle Hotel, Belfast, on Dec. 22nd, 1881. J. Doris, Esq., President, in the chair. Present—Messrs. Simcocks, Drogheda ; Dunlop, Downpatrick ; Kernohan, Ballymena ; Bradshaw, Portrush ; Dunlop, Matthews, Chambers, Brown, Johnson, Stringer (student), Sherwood (student), and the Secretary, Belfast.

James Dunlop, Esq., Downpatrick, was elected a member of the society.

Letters of apology for non-attendance were read from Messrs. Thomson, A.V.D., Dundalk ; Bradley, Newry ; and Thomson, Lisburn ; whilst a number of verbal apologies were tendered on behalf of absentees.

The Treasurer's report—a most satisfactory one—was read by Mr. Matthews, and unanimously agreed to.

The election of office-bearers for 1882 was then proceeded with, with the following result :—President, T. H. Simcocks, Esq., Drogheda ; Vice-Presidents, J. Doris, Esq, Cookstown, and W. Chambers, Esq., Belfast ; Treasurer, R. W. Matthews, Esq., Belfast ; Secretary, H. Bradshaw, Esq., Portrush.

Votes of thanks were awarded to the retiring office-bearers, after which matters relative to the future regulation of the society were under discussion.

The hour being somewhat advanced, the communications by Messrs. Simcocks, Dunlop, and Doris were held over, and the Secretary read his paper on "Our Profession," which led to a long and interesting discussion —such questions as "Pupilage," "The Veterinary Surgeons Act," "Professional etiquette," and "Fees," being warmly debated. On the motion of Mr. Chambers, the discussion was adjourned until next meeting.

The SECRETARY proposed, and Mr. B. DUNLOP seconded—"That the thanks of this society be accorded to George Fleming, Esq., President of the Royal College of Veterinary Surgeons, for the indomitable energy and perseverance he has displayed in obtaining for our profession this much-required Act ; and, further, to propose that Mr. George Fleming be elected an honorary associate of this society." This was carried unanimously.

Notice of change of rule relative to times of meeting having been given for next meeting, votes of thanks were conveyed to the president and essayist, when an exceedingly interesting and harmonious meeting terminated.

GEORGE KIDNEY, *Hon. Sec.*

NORTH OF ENGLAND VETERINARY MEDICAL ASSOCIATION.

THE usual quarterly meeting of this Association was held in the Turk's Head Hotel, Grey Street, Newcastle-upon-Tyne, on December 9th, 1881.

Mr. Mulvey, Bishop Auckland, President, in the chair. Present :—Messrs. Dudgeon and Mitchel, Sunderland ; J. Gofton, North Shields ; D. McGregor, Bedlington ; W. Awde, Stockton-on-Tees ; W. T. Briggs, Darlington ; J. B. Nisbet, Fence Houses ; J. E. Peele, Durham ; H. Hunter, A. Hunter, W. Hunter, W. S. Pringle, C. Stephenson, W. W. Smart, J. H. Wilson, and the Secretary, Newcastle-upon-Tyne.

The minutes of the previous meeting were read and confirmed.

Mr. H. Hunter exhibited a hair cyst taken from the neck of a cow, about three or four inches from the angle of the jaw.

Mr. J. GOFTON then related a very interesting case of "missed labour," which occurred in his practice a few days ago, as follows :—

The cow was at her forty weeks on the 8th of March of this year. The owner ceased to milk her for a period of several weeks previous to the above date. About the time she was expected to calve the usual appearances were

present, viz., the enlargement of the external organs, the udder enlarged, and the abdomen distended, but after this period these symptoms gradually disappeared. The owner, meantime, felt sure he could feel the calf behind the short ribs. The cow remained in her usual health till the 5th of December (twice forty weeks), when I was called in. The following symptoms were present :—About two feet of the membranes were protruding from the vagina. On examination, a hard body was felt well forward in the vagina, which, with a little help, was brought away (breast presentation), the fœtus being completely enclosed in its membranes, the external appearance being like a piece of thin, black, rotten leather; it contained no fluid, and appeared as if the connection with the womb had been severed for a considerable period, and was easily torn with the hand. The calf was doubled up in a curious manner, and the skin was hard and dry as a piece of wood, except where doubled upon itself it was quite soft and pliable. I may say the cow made a good recovery, and is now well.

A very interesting discussion followed, in which Messrs. Dudgeon, Stephenson, and H. Hunter related cases of missed labour.

The PRESIDENT exhibited portions of a fractured femur. The horse was bought in June, this year; six years old, and very fat. In August he was off his food, going stiff generally, and slightly lame on the off hind leg. Ordered rest, and gave a dose of physic. Came to the conclusion that he was lame in the hip joint. Lameness gradually increased, and the quarter began to swell. Applied stimulating liniments and blisters to the swollen part. He continued in this state up to November 6th, when he was found walking round the box, very uneasy, plunged, fell, and died, the immediate cause of death being fracture and laceration of the blood-vessels. Could not find out if he had ever received any injury.

Mr. T. B. NISBET then read his paper on "Diseases of the Throat." The paper is as follows :—

Mr. President and Gentlemen,—It is with very great diffidence that I appear before you to-night as an essayist, particularly when I see so many here better able to fill the place I now occupy, and crave your kind indulgence while I attempt to bring under your notice a few commonplace remarks on the diseases of the throat. I do not intend to go very minutely into all the diseases affecting the throat of our domestic animals. The very limited time at my disposal has prevented me from treating the subject in as comprehensive a manner as it merits. But I trust that a lively discussion will follow, and that a pleasant and profitable evening will be spent by all present.

Gentlemen, there are two diseases of the throat which I purpose bringing before you to-night, and to these will my remarks chiefly refer, viz., hyperæmia and catarrh of the mucous membrane of the larynx, commonly called "Sore Throat," also Angina Laryngitis. The other disease, which will form the principal of my paper, is what is called Angina Membranacea, Laryngitis Cruposa, Membranous Croup, also Diphtheria. The former disease is the more common of the two; in fact, so common that scarcely a week passes, and at certain times in the year hardly a day passes, but we come in contact with cases of Laryngitis in all our domestic animals, while Croup or Diphtheria is comparatively rare.

From cases that have come under my notice of late years, I cannot help coming to the conclusion that Diphtheritic Croup is of more frequent occurrence than many veterinary practitioners are aware of.

I consider these two diseases are of very great interest to the veterinary surgeon, also to the owner of valuable stock. How often do we hear of a high-priced colt, which, while being trained to go in harness, or receiving tuition befitting him to carry some nobleman to the hounds, suddenly

starts coughing, and by-and-by becomes a roarer, and unfit for the field. The hackney, the hunter, and the harness-horse all become immensely reduced in value when that sequel to Laryngitis finally sets in.

In all cases of Catarrh, no matter what organ of the body is affected, we have engorgement of the blood-vessels of the mucous membrane, accompanied by abnormal secretions, swelling succulence of its tissues, and a copious generation of young cells. And as we find that all animals are liable to inflammatory action of the mucous membrane of the air passages, we find that the liability varies greatly in different animals, the horse being the most liable of all the domestic animals.

The causes of Laryngitis are various. It may be idiopathic, or it may be symptomatic of other disease, as in Influenza. The sudden change of temperature; horses taken from the pasture and placed in badly ventilated stables; horses taken fresh from the country and placed in hot, badly ventilated stables in large towns, are almost certain to contract the disease. At certain seasons of the year it seems to take the form of an epizoötic, attacking nearly every animal in the stable. Cold easterly winds, and exposure to wet.

Symptoms.—Seldom is the veterinary surgeon called in at the early stage of the affection. It is only when serious symptoms manifest themselves that we are called in; and when we inquire into the history of the case we find that the animal has been coughing for a few days, is dull and listless, refusing food, has difficulty in swallowing food and water, showing the pharynx to be implicated in the attack; discharge from the eyes, mouth, nostrils hot, and saliva dribbling from the mouth; the visible mucous membranes reddened; a yellowish-white or green discharge from the nose; a full, quick pulse; neck stiff, nose protruding, and the nostrils distended; a loud snoring sound at each inspiration, which is very painful to the ear of the practitioner. Sometimes the animal moves one fore foot on to the other, and the whole head and neck is swayed from one side to the other. An anxious expression of the countenance, and an increase of temperature of the body.

Treatment.—The first consideration is to attend to the bodily comfort of the patient. Have him removed to a roomy, well-ventilated loose box; clothe the body with light warm woollen rugs, flannel bandages to the legs. If the case is acute Laryngitis, unaccompanied by Influenza, and the patient able to swallow freely, I administer a laxative composed of the following—Ol. Lini. Oj., Spt. Æther Nit. ʒj.—and have the throat well rubbed with strong stimulating liniment, to be followed with hot poultices; have the head well steamed; place some cold water before him, in which Nit. Potas. has been dissolved, also some well-boiled gruel or linseed tea, so placed that he can, without any inconvenience, help himself. Should the constitutional disturbance be great, and fever high, I give the following—℞ Liq. Ammon. Acet. ʒiij., Spt. Æther Nit. ʒj., Tinct. Aconiti ♏xv., Aqua Oj.—twice a day. If there is great difficulty in swallowing, I refrain from giving drenches, and I consider giving balls an injudicious form of administering medicine to a horse suffering from inflammation of the throat. In such a case I give an electuary, composed of Pulv. Camphora ʒiv., Pulv. Nit. Potas. ʒiv., Ext. Belladonna ʒij., treacle sufficient; a little to be placed on the tongue, as far back as possible, every two hours for forty-eight hours, to be followed with astringents; also give enemata if the bowels are constipated. Sometimes the œdema becomes so great that death by asphyxia is imminent, if relief be not speedily obtained. The breathing becomes most distressing: a loud sonorous inspiration, the alæ nasi distended to the utmost, the conjunctiva presenting a leaden colour, showing the blood imperfectly oxidized. Then tracheotomy must be performed. I need not tire you, gentlemen, with

describing the operation. Suffice to say that I have performed it many, many times, and I consider saved the lives of many valuable horses and ponies, and I never had any unpleasant consequences therefrom. The longest time that I have kept the tube in was seven weeks, and the shortest was ten days. Let the whole surroundings be comfortable to the animals. All food to be well boiled, and when convalescent give vegetable and mineral tonics. How annoying it is, after all our labour and anxiety, when the animal comes out a roarer.

Croup and Diphtheria.—Croupous inflammations are inflammatory disorders in which a fibrinous exudation, which rapidly coagulates, is thrown out upon the free surface of a mucous membrane, but which involves the epithelium only. If the croupous membrane thus formed be detached, the epithelium is quickly reproduced. No loss of substance occurs in the mucous membrane itself, and no scar remains. It is also a disease that exclusively attacks the mucous membrane of the air passages, and only attacks the young. In the human subject it rarely attacks the suckling and after the second dentition ; so that the period of greatest predisposition to Croup lies between the second and seventh years, and then the disease is always in the larynx or trachea, seldom or never affecting the alveoli of the lungs. Yet Croupous Pneumonia—a true croup of the air cells—is one of the most common diseases of adults, in whom primary Croup of the trachea and larynx scarcely ever occurs. We have also Diphtheritic Croup, or Diphtheria, a disease which is highly infectious and very acute. It is characterized by an exudation developing false membranes on the pharynx—seldom on the larynx and upper air passages ; these false membranes attacking the mucous membrane proper, and not, as in idiopathic Croup, only the epithelium. The contagium in this disease is contained in the false membrane and shreds of tissue detached from the fauces, and in the air expelled by the patient. It is a disease which occasions great mortality amongst the young, although the adult does not escape its baneful effects. Whether it is propagated from man to animals, and *vice versâ*, requires greater demonstration than has hitherto been shown. Mr. Fleming, in his able essay on the transmissibility of Diphtheria from man to animals, and *vice versâ*, has tried to prove that it is so ; but we, as the rank and file of the profession, also the public, are not justified in concluding that the disease is transmitted from animals to man, without further and clearer proof. As to the causes of the disease Diphtheria, I hold that the miasmatic or germ origin is beyond dispute ; and although propagated by infection, still it originates spontaneously where bad sanitary conditions exist.

Symptoms.—The general symptoms of the disease may be summed up as follows :—Swelling of the glands of the throat, more or less greyish-white patches on the fauces accompanied with fever.

I will now relate an outbreak of Diphtheria which came under my special notice over twelve months ago. On the 18th of July, 1880, I received a message that a lot of swine at Picktree Farm had got poisoned, and my presence was urgently required. I lost no time in going to the place, and there met the bailiff, who told me that eleven swine had got poison through the carelessness of the rat-catcher, who had been laying down poison to kill rats. After examining the animals, I had some difficulty in persuading him otherwise. So much for a first impression. On inquiries I elicited the following facts :—There were eleven animals affected : nine were of the same litter ; two had been bought in. They had been in the foal-yard since taken off the sow, and were now about seven months' old. Their food consisted of crushed barley, oats, and Indian corn, with kitchen refuse. About two weeks before the attack all grain was taken from them, and green vetches supplied. The attendant had remarked how well they were doing on the

change of food. The day previous he noticed all the animals dull and listless, with great thirst; and in the morning they refused all food, and on my arrival at noon the following were the general symptoms :—All the animals presented the same appearance—four out of the eleven were worse. Enormous swelling of the throat; a hacking, short cough; disinclination to move; a loud noise on inspiration. The animal sat on his haunches, with nose extended, the mouth open, the angle of which was retracted, with most painful efforts to breathe. The slightest disturbance brought on violent spasms; the tongue protruding, presenting a rough, dry surface, and of a dark brown colour; bowels constipated; urine high-coloured; cold extremities; cold feel all over the body; inclined to lie together, covered over among the straw. I concluded that I had acute Inflammation of the throat to deal with. But I could not account for all the eleven animals presenting the same symptoms together. I ordered each animal to have a dose of Ol. Ricini, and the throat to be well rubbed with strong stimulating liniment, promising to call back in the evening. On my second visit I accidentally discovered the true nature of the malady. The attendant told me that while rubbing the throat with the liniment the animal fell down as if dying, could not get breath, and seemed to be in such agony that the master ordered him to kill it by sticking it in the usual way that butchers adopt when slaughtering swine. I at once made a *post-mortem*, and found extensive serous exudation all round the throat. I cut away the surrounding tissue, and removed the lower jaw, and on cutting open the larynx and pharynx I discovered the characteristic lesions of Diphtheria—a beautifully and well developed false membrane covering the fauces, and very firmly attached to it; all the other organs of the body having a healthy appearance.

I had the remaining ten removed to a clean dry shed, and had a clean trough filled with cold water, in which some Nit. potass. was dissolved. I ordered well-boiled oatmeal gruel and linseed tea, with chlorate of potash dissolved in it, to be so placed that they could help themselves. They drank freely of both. About 11 p.m. a second died, and about 4 a.m. a third died. These two were taken out, and removed to a convenient place for burying them. I made a *post-mortem* of both about 11 a.m. Decomposition had taken place very rapidly. The bowels were enormously distended with gas; the serous membranes were studded all over with petechial spots, the lungs congested, and the whole pharynx covered with a thick, tough, dirty yellow-white membrane, which peeled off intact. Both animals presented the same abnormal lesions.

I now turned my attention to some brood swine, each suckling a number of pigs. These were in a different part of the farm building. I noticed that an old sow, from which a litter of ten pigs had been taken ten days previous, was ill. She presented the same symptom that the other eleven did, viz., disinclination to move. This was very marked in her, owing to her savage habits. She would not allow any one to go near her; with great thirst, and refusing food. I had her removed to the shed containing the eight already affected, and all the healthy ones were removed to a shed half a mile from the farm buildings. Had the place thoroughly cleansed and disinfected. The eight first affected gradually recovered; in two weeks were as frisky as ever.

On the 20th the old sow was much worse; enormous swelling of the throat from the anterior parts of the lower jaw; all along the neck, down to the chest, was hard and stiff; refused all food and water; pulse 90, small and hard; temperature 104·6°; bowels constipated; urine very dark in colour. I tried to touch the fauces with a solution of nitrate of silver, and administer medicine, but I had a rough patient to deal with. The paroxysms brought on by my attempt to do something for her made me desist.

The 21st. No abatement of the symptoms.

22nd. No change; the swelling intensified.

23rd. Slight improvement; the temperature 103·4°; could not make out the pulse; had tried to drink water. Procured some milk; she sucked up about a pint.

24th. About same as yesterday.

25th. A decided improvement, and a gradual convalescence took place up to the 30th.

She now began to show her usual bad temper, and I certainly did not take much liberty with her after that date. In about a week after she was walking about as usual, having a good appetite.

A passing remark in conclusion may not be out of place. Anent the disease called Tubercular Stomatitis, as described by Mr. Macgillivray, of Banff, N.B., and Diphtheria, being one and the same disease, as set forth by Mr. Fleming, I need not here recapitulate all the pros and cons set forth by these gentlemen. Suffice to say that I hold the diseases are quite distinct. The symptoms, and the result of the *post-mortems*, which I have given you to-night, fully prove that they are so. I have seen the same disease in dogs. I had a well-marked case about eight months ago. I have not seen it in calves; and as for horses, the great difficulty of examining the fauces prevents us from diagnosing true Diphtheria. Still I am inclined to the belief that cases of Diphtheria do occur, especially in young ponies. How often do we find these presenting all the external symptoms of Diphtheria? I do firmly believe that if we could see the condition of the pharynx we should find true false membranes. With these disjointed remarks I beg to conclude, trusting to your generously overlooking the many imperfections of this paper, and that each gentleman present will express his views fully and freely on the various points of interest which have been brought forward to-night.

A very interesting and profitable discussion followed, in which all the members present took part, the chief bone of contention being the best and most effectual treatment in acute cases affecting the larynx. The majority were in favour of cantharides, and where there was danger of choking performing tracheotomy

Mr. D. DUDGEON proposed, and Mr. H. HUNTER seconded, a hearty vote of thanks to Mr. Nisbet for his very interesting paper.

Proposed by the PRESIDENT, and seconded by Mr. MCGREGOR, that the paper be sent to the VETERINARY JOURNAL for publication.

A vote of thanks to the Chairman brought the meeting to a close.

GEORGE ELPHICK, *Secretary.*

HIGHLAND AND AGRICULTURAL SOCIETY.

AT the annual general meeting of this Society, held at Edinburgh in January, among other business it was reported that at the general meeting in June last it was resolved to petition against clause 15 of the Veterinary Surgeons Bill (introduced into the House of Lords by Lord Aberdare), which provided that on and after 1st October, 1881, a person was not entitled to use the title of veterinary surgeon, or any name or title implying that he was a member of the Royal College of Veterinary Surgeons, unless he was registered as a member of the said Royal College. It was accordingly moved to petition Parliament to insert in clause 15 the words, "or holds the veterinary certificate of the Highland and Agricultural Society of Scotland." In accordance with this resolution the Earl of Mar and Kellie presented the petition, and gave notice of the necessary amendment. The Marquis of Lothian agreed to second the amendment, and the Duke of Buccleuch and a great many of the Scotch peers were prepared to support it. Lord Aberdare

and the Lord President, however, agreed to accept the amendment, and in the Bill, as amended in committee on recommitment, the holders of the Society's veterinary certificates were duly recognised as veterinary surgeons. "The agreeable duty now devolves upon me," adds the reporter, "of submitting a copy of the Act in which the amendment has been given effect to. By the Act, the Royal College of Veterinary Surgeons is bound to make provision in the manner permitted by their charters for the examination in Scotland of the students attending the several Scotch veterinary colleges, and to admit and register such students as have passed the examination as members of said Royal College, under the provisions of such charters and this Act."

NEW MEMBERS OF THE PROFESSION.

AT the meeting of the Court of Examiners of the Royal College of Veterinary Surgeons, held on the 5th and 6th January, the following students from the Royal Veterinary College were admitted members of the profession :—

Mr.	F. M. Wallis	... ...	Halstead, Essex.
„	E. J. Mellett	... ...	Henley-on-Thames.
„	Herbert Pollard	... ...	Cornwall.
„	S. B. Price	... ...	Manchester.
„	F. H. Pinkett	... ...	Worcester.
„	J. W. Barford	... ...	Southampton.
„	Philip Turner	... ...	Stowmarket.
„	*W. H. Bartrum	... ...	Kilburn.
„	A. H. Waddell	... ...	Newtown, Mont.
„	E. J. Sewell	... ...	London.

The following students passed their second examination on the 7th and 9th January :—

Mr.	A. Hassall.	Mr.	*E. W. Baker.
„	*T. A. Smith.	„	R. W. Raymond.
„	W. Smithers.	„	A. J. Mullen.
„	C. E. Nuthall.	„	H. E. Pinel.

The following passed their first examination on the 10th and 11th January :—

Mr.	H. E. C. Selfe.	Mr.	C. W. Heinemann.	Mr.	*H. Smith.
„	*Louis Burghope.	„	W. S. Reid.	„	J. G. Watson.
„	T. W. Turner.	„	T. A. Britton.	„	W. Brown.
„	J. G. Wentworth.	„	*W. D. Snowball.	„	Geo. Stear.
„	W. E. W. Baldwin.				

* Marked thus passed with great credit.

At the several meetings of the Scottish section of the Court of Examiners of the Royal College of Veterinary Surgeons, held in Edinburgh and Glasgow, the following students passed their first examination on the 13th and 14th January :—

Mr.	A. B. Bennett.	Mr.	Donald McLardy.
„	W. Sheriff.	„	G. E. Gibson.
„	H. Gilsthorpe.	„	Gordon Frew.
„	R. O. F. Stewart.	„	W. M. Williams.
„	James Player.	„	John Steel.
„	W. G. O. Davidson.	„	Robert Anderson.
„	J. W. Foreman.	„	Geo. McCallum.
„	Alfred Conisbee.	„	W. G. Jones.
„	R. H. Suttle.	„	A. Newlands.
„	M. B. McDougall.		

Army Veterinary Department.

Gazette, January 24th.

Inspecting Veterinary Surgeon F. F. Collins is placed on retired pay.

Obituary.

THE death is announced of CHARLES SECKER, M.R.C.V.S., of Knaresborough, who graduated in 1844. In the district in which he practised Mr. Secker was much respected, and in the profession those who knew him held him in high esteem. He at different times held the offices of council-man, vice-president and examiner of the Royal College of Veterinary Surgeons.

Jurisprudence.

AN UNQUALIFIED PRACTITIONER'S BILL.

CHATHAM COUNTY COURT.

John Manning v. *Rev. William English.*—Claim, £2 9s. 6d.—Mr. Smith appeared for the plaintiff; Mr. Norman for the defendant.—John Luckhurst, formerly bailiff to the defendant, stated that complainant, who is a veterinary surgeon at Rochester, attended to a calf on defendant's farm, at Upchurch, at witness's request. Defendant had told him to obtain the assistance of a veterinary surgeon if a calf were taken ill. Defendant knew that Mr. Manning was attending the calf. Plaintiff supplied medicines. When defendant received the bill he said he should not pay; he supposed defendant thought it was too much. The calf recovered under plaintiff's care, and was eventually sold for £6.—Plaintiff stated that the calf was suffering from sunstroke and excessive fever, and was insensible. He had to pay several visits to see it, coming a distance of nearly seven miles, and the calf recovered.—Mr. Norman, for the defendant, said his client considered the charges exorbitant, and he further urged that the plaintiff, not being a properly qualified man—he was not a member of the Royal College of Veterinary Surgeons—was not entitled to charge for attendances, but only for medicine. Mr. English had offered what he considered a fair amount, but plaintiff had refused to accept it.—Plaintiff said he was properly qualified, but he was not certified; he had applied to be certified under the new Act, but the forms were not yet ready.—His Honour said the fact of the plaintiff not being a member of the R.C.V.S. would not disentitle him to claim for attendances. He had known a great many foolish people with a lot of letters after their names, and he had known a great many wise ones without any. Results were the best proof of skill. He should give judgment for the plaintiff for the amount claimed.

[This is a case which shows that unregistered, and therefore unqualified, practitioners could, until the Veterinary Surgeons Act was obtained, sue for attendance. The judge may, in this instance, have been misled by the plaintiff stating he was properly qualified, which he was not. It not unfrequently happens, however, that judges' judgments and opinions are the reverse of sound or sensible. There are foolish judges always to be found among the many wise ones, just as there is a proportionate number of foolish people in every crowd. It would be too much to expect a sensible man under every horse-hair wig.]

Correspondence.

THE LANCASHIRE VETERINARY MEDICAL ASSOCIATION AND "ENEMIES IN OUR MIDST."

SIR,—The result of the adjourned discussion on Mr. T. A. Dollar's motion, as appears in the report of the last meeting of the above Association, not having been rendered in the same precise manner as that given by the secretary in his report of the previous meetings—such for some reason or other having been suppressed—intrusion upon your pages has become a necessity. In commencing the resumed discussion I observed that:—

"I proposed the adjournment of the discussion on Mr. Dollar's motion at our last meeting, chiefly because it was taking up so much of the time of the Association, to the exclusion of its legitimate business; that it was entirely irrelevant and out of order; that it was not on the circular, and no one was prepared to discuss it, save those who proposed and seconded it, as if the desire was to take us unawares—to swoop down upon us and carry their point before we had time to properly consider the matter. I maintain that it was altogether outside the province of the Association to entertain it. It completely blocked the business of the meeting, which was the hearing of a paper upon one of the most deeply interesting and scientific subjects that could be brought before us. We were all anxious and impatient to hear it, especially so since it was by one of our oldest and most respected members. This was the second time that he and his paper had been thrust aside by the same tactics and by the same party. This, in my opinion, to say the least of it, was discourteous to him, if not a decided mark of disrespect, and I may add that I was not alone in this opinion. It appeared to me and to others that the party who brought this matter forward used expressions out of all proportion to the necessity of the case, complaining of and stigmatizing certain observations contained in a letter published in the September Journal, headed 'Enemies in our Midst,' and signed 'Lancashire.' Mr. Dollar wished to make it an Association question; that is, that a matter which was purely personal and private should be taken up by the Lancashire Veterinary Medical Association, for this Association to resent it, and pass a vote of censure upon the writer of the letter (whoever he may be), and also upon the editor of the Journal in question; thus making our meetings meetings of contention, wrangling, and disunion, which every well-constituted mind would wish to avoid. But before passing this vote of censure I thought it would be well if we asked ourselves the questions, first, Was there any reason or cause for the letter? and, secondly, Did the letter contain any untruths or misrepresentations? I have read the letter over carefully, but fail to see that it is susceptible of the construction put upon it by Mr. Dollar. I believe every word in it is absolutely true. I believe that a vast majority of our profession, if they did not write letters, felt at the time indignant at the conduct of those who set themselves in opposition to the unanimous vote of the Council, and the unanimous vote of five or six of the Veterinary Medical Associations. There were members of Council and others who opposed our Bill. They are gentlemen whom we have known for a long period of years, and we have entertained for them a feeling of the deepest and most sincere respect and friendship. We have abundant evidence that they have the best interests of the profession at heart, and that they would do anything and everything in their power for its good and advancement. But upon this subject of our Bill they have formed an opinion (conscientious, as I am quite willing to believe) which is at variance with the opinion of a vast majority of their professional brethren. It would appear that, with them, personal susceptibilities take precedence of political sagacity.

"I believe that it is generally considered in all regularly constituted socie-

ties, that the minority shall be governed and bound by the action of the majority; but it would appear that these gentlemen preferred to ignore this well-established and time-honoured custom, simply because, as it appears to me, they entertain the belief that we who possess the diploma are alone entitled to call ourselves Veterinary Surgeons. Our President, and those who act with him, held most tenaciously to this opinion, until the delusion was exploded before our face. Our opponents, who still cling fondly to this favourite though obsolete notion, say, in effect, *that they would much prefer we should have no Act of Parliament at all, rather than make a compromise with the non-qualified practitioners.* This notion of theirs was founded upon a false and erroneous basis entirely. The Crown lawyers soon informed our President most positively and most distinctly that we had no exclusive *legal* title whatever to call ourselves Veterinary Surgeons; that the blacksmith and the farrier had quite as good a right and title, *legally*, to it as we had. Our Bill has most emphatically put a stop to all this by giving us the power to say who shall be and who shall not be Veterinary Surgeons. It was inevitable some sort of compromise must be made with the non-qualified man: it was on this condition, and on this condition only, that a Bill could possibly be obtained.

"I have heard it stated that in every case in which we give a non-qualified man (however worthy he may be) a registration-paper we are legalizing that man. Well, I admit it; but by the same process of reasoning it is equally clear that in every case in which we give a non-qualified man (a student) a diploma we are legalizing that man.

"You will now see what fulsome nonsense is all this that has been talked about our legalizing quackery. I want to strongly impress this upon your minds: let it be clearly, fully, and thoroughly understood that from the moment we have given a man a diploma or a registration-paper he ceases to be a quack. Those who knew all this well, and knew all the difficulties our worthy President had to contend with at a moment of supreme peril, whilst fighting our battle for us so persistently, so disinterestedly, and so courageously—I say, they who knew it all might well feel sensitive upon the subject. I would ask, Is it to be wondered at if they should in the heat of the moment write down their feelings of bitter resentment, as many of them did write, when they observed a small clique who did not or would not see the great difficulties he had to contend with, but who seemed to conceive it to be their duty to do everything in their power, just in the nick of time, to prevent an all but unanimous profession obtaining an Act of Parliament containing the penal clause, which for a century they had been most anxiously yearning and striving to obtain? It has been intimated to me that, although it is just that the aggrieved party should resent any false representation against an individual, if there has been any, it is at the same time still more important, and would be much more becoming, much more in keeping with the necessities of the case, if, instead of asking for a vote of censure upon the writer of that letter, or the editor, a vote of censure ought to be proposed to be passed upon those who had been the occasion of it by their disloyalty to party. I now move an amendment that Mr. Dollar's motion be rejected."

This amendment was seconded by Mr. John Lawson, and after Mr. Fleming and many others had spoken upon the subject, a division took place; and although there was a larger quarterly meeting than we ever had before, there being about forty-one members and visitors, only two hands were held up for Mr. Dollar's motion besides his own. This may be taken as a fair indication of the feeling of the Veterinary Medical Associations and members of the profession throughout the land.

Yours truly,

Manchester, *January 7th.* T. GREAVES, F.R.C.V.S.

THE SALE OF THE DIPLOMA OF THE ROYAL COLLEGE OF VETERINARY SURGEONS.

DEAR SIR,—When reading the report of the meeting of the Scottish Central Veterinary Association, in your last issue (No. 79, p. 43), I came to a standstill on perusing the remarks of the President concerning the sale of the diploma of the R.C.V.S.

For the honour and dignity of the body corporate I feel myself uncontrollably impelled to draw attention to the matter; and to make myself clear, I refer to the remarks I allude to, which commence as follows:—"The Act, in addition to providing registration," etc., and then go on: "A very good, or rather very flagrant example of such a case came before me at a recent examination for the veterinary certificate of the Highland and Agricultural Society. A student there presented himself who held a medical degree from an American University, and as such was allowed certain privileges in the passing of the Veterinary Examination Board. Well, the result was, this *soi-disant* M.D. did not know the most elementary principles of anatomy and physiology, or of histology. Notwithstanding this, however, and the protests of at least two members of the Board, the result was that he was allowed to pass, probably not so much in virtue of his own examination, as more particularly, if not mainly, out of consideration for the indignity it would have been for us to have plucked a man who held a diploma of graduation in medical science."

Now, I remember that some time ago a gentleman applied to the Registrar to enter his claim to exemption from certain portions of the school curriculum, as he held a M.D. diploma from some American institution, which he assumed entitled him to such exemption. Due inquiries having been instituted by the profession's legal representatives, the claim was ignored, because the diploma could not be legally recognized, and I believe some pains were taken to ascertain the value of the document.

Can it be possible that this is the same gentleman? If so, what a ludicrous grin he must have enjoyed when he walked away with the diploma of the "R.C.V.S." without examination for it, or conforming to the rules and regulations!!

Recently several students from the Camden Town College have crossed the border, after being plucked a few times at Red Lion Square; there they entered as short-term students, and went up in a few weeks for the Highland and Agricultural Society's certificate. Having obtained it, they have returned to London and demanded the diploma on payment of seven guineas!! This is quite as bad as should be permitted, or winked at; but the instance I have referred to demands some explanation, for, if what the President said is true—and as he is an examiner, I opine it is so—the diploma of the Royal College has been issued in a most unwarrantable manner, which must tend to seriously damage the profession abroad, because it will be thought that such cases are of usual, every-day, occurrence.

The evil surrounding this unfortunate *sale system* cannot be better pourtrayed than by quoting an incident that happened this year. Two superior coachmen waited on a well-known veterinary surgeon to have a bet decided; one had wagered a sovereign that Mr. So-and-so had *gone through the College* to get his diploma, and the other that he had got it without *going through*. The veterinary surgeon wisely decided the bet off—to be withdrawn; and thus the scandal may die out.

I feel sure the loophole was never intended for such abuse, and it is gratifying to know that it is now hermetically sealed up. I felt, however, that censure should be passed on what had occurred, if true, and in drawing attention to the remarks referred to I feel I have done my duty.

I am, faithfully yours,

London, *January* 20th, 1882. ROBERT WARD, F.R.C.V.S.

THE HIGHLAND SOCIETY AND THE ROYAL COLLEGE OF VETERINARY SURGEONS.

DEAR SIR,—The January number of the VETERINARY JOURNAL, amongst its editorials, contains an article reflecting in unmeasured terms upon the Highland and Agricultural Society and its position towards the Veterinary Surgeons Act. A correspondent is stated to have forwarded "a lengthy communication," from which an abstract is furnished, which consists in a series of ridiculous and contradictory charges against the Society. The opening accusation is "opposition" to the Veterinary Surgeons Bill. Yet somewhat illogically towards the close of the article, it is stated, "that in no sense or way whatever is the profession indebted to the Society for abstinence from opposition to the Act." The correspondent or his interpreter do not themselves appear very clear regarding the opposition complained of. Nor is this to be wondered at, for the Society, so far from opposing the Veterinary Surgeons Bill, cordially approved of it. Several of its leading members rendered signal service in helping it through both Houses of Parliament. Very properly regarding the interests of its certificate-holders, the Society obtained the introduction under Clause 17, of the provision that these certificate-holders shall retain their title as veterinary surgeons and their privileges to recover professional fees. Such a provision in no way affects the scope or efficiency of the Act. The Society's certificate-holders stand, as the Editor puts it, in a somewhat "anomalous position;" they are Veterinary Surgeons by Act of Parliament, but if they realise this to be the "painful position" which it is characterised to be, they may readily escape from it, assume the title of M.R.C.V.S., and be placed on the register of fully-qualified practitioners by payment of their fees to the College. Instead of damaging the College, this clause, for the introduction of which the Society is answerable, if it has any effect at all, must add to its prestige and its funds. Can any dispassionate man regard this as "opposition," or as injurious to the interests of the profession? No other mode of procedure could fairly have been adopted towards the few educated men whose professional requirements, be it remembered, the College would willingly accept, but who from any cause do not choose to apply for the diploma of the College.

Further to prejudice the profession against the Highland Society and its certificate-holders, the favoured correspondent with bad taste rakes up old grievances, and regardless of fact makes several blundering misrepresentations. He animadverts on the supposed and apparently long-standing "antagonism" of the Society to the College. There might have been emulation, there certainly was never antagonism on the part of the Society. The best men connected with the two licensing bodies were alike desirous to improve the status and extend the usefulness of the profession. Again, it is urged that the antagonism of the Society "was the sole cause of the profession remaining without legislative protection for nearly forty years." There was not much of a profession at that early date to protect. The Royal College of Veterinary Surgeons received its charter of corporation so recently as 1844. No discredit attaches either to the Royal College or to the Highland Society that for years each exerted its influence in raising the veterinary art. It cannot magnify the exertions of the one to depreciate the efforts of the other. Each had its work to do, and in the main did it well. Even were the statements true, which they are not, what object is gained by the sweeping declaration that the Society's certificate system was played out, that it was more of a farce than anything else, as the certificate was not recognised in public as a proof of legal qualification? Such palpable misrepresentations appear out of place in a respectable journal professing a regard for fair play and truth, and desiring professional unity. Fortified as they are by editorial approval they seem to me to demand public contradiction. It is

matter of history that the veterinary examinations of the Highland Society were established fifty years ago, and were therefore doing good service before the inception of the Royal College of Veterinary Surgeons. Twelve years ago the number of students presenting themselves for examination occasionally reached forty, while during the last five years the appreciation of the certificate, in spite of the deservedly increasing power and popularity of the Royal College, was still attested by an annual average of twenty-six candidates. Many of the most successful veterinarians, not only throughout Scotland, but in England, in the Colonies, and in the army, are holders of the certificate thus disparagingly spoken of. On the Society's graduation lists are besides the names of the Principals of three out of the four veterinary colleges in Great Britain, the Principals of two Colonial colleges, the President of the Royal College, with many members of Council. These gentlemen surely could not have taken the trouble, by a stiff examination, to obtain a certificate "which had for a long time been played out" or identify themselves with a professional "farce." So far from the Society's certificate-holders having, as stated, no legal position they have been recognised as competent practitioners under the Contagious Diseases (Animals) Act, and are specially mentioned as qualified veterinarians in the Pharmacy Amendment Act of 1869.

The circumstances which actually determined the Highland Society to cease her veterinary examinations certainly were not that they were "played out," or a "farce," or not "recognised in public." The profession she had so long and continuously helped had grown in education and self-dependence; its council and management had become widely representative; its own certificate-holders, as already indicated, occupied important official positions. Her mission had been served. The veterinary profession had exhibited the ability to maintain and to regulate its own examinations. Possession of the entire control of the entrance into the profession, it was urged, would add to its influence and develop amongst its members more harmony and *esprit de corps*. Realising the weight of these considerations, the Highland Society willingly entered into negotiations with the Royal College, and made the agreement concerning the suspension of its examinations and the recognition of its graduates, which unprejudiced persons regarded and still regard as wise and reasonable, but which this captious critic now characterises as "entirely for the benefit of the Society." Such an assumption, if correct, would seem to stultify the Council of the College, who carried out these arrangements, and endeavoured to gather all British veterinarians into one friendly fold.

Friendly unanimity cannot, however, be promoted by the publication of carping and untruthful diatribes indulged in by nameless correspondents, and countenanced by editorial authority. Instead of calming prejudice and challenging error, the Editor judicially declares, "From the writer's opinion we do not dissent; on the contrary, we have already given expression to similar views." More is the pity. Groundless splenetic deliverances cannot further the best interests of the profession, nor conduce to desiderated harmony and unity, nor inspire confidence in professional honour, sense, or judgment. Attacks on imaginary enemies are unlikely to multiply friends.

FINLAY DUN.

2, Portland Place, London, W.
16th January, 1882.

[The letter to which allusion is made, was not published because of its requiring more space than could be afforded in our last issue, and also because it referred to incidents occurring in quite recent years which cannot profitably be discussed now. With the views regarding the Highland Society and the Veterinary Surgeons Bill we saw no reason to differ. The feeling of the Society towards the Bill was manifested at the meeting held on

June 15th—VETERINARY JOURNAL for July, 1881, p. 64; and also at the meeting reported in the present Journal. So far from helping the Bill through either House, those speaking for the Society in the Lords most energetically opposed the clause granting the exclusive right to the title of Veterinary Surgeon to members of the Royal College, and the Society would certainly have gone to any length in defeating the Bill through this clause. More it could not have done at any time. All its influence was exerted in favour of its certificate-holders, for whose benefit a special Charter had been already obtained by the Royal College. We happen to know pretty well who supported and opposed the Bill in both Houses, and are not aware that those connected with the Society gave it any help whatever. We know, moreover, that in the Lords, the Earls of Camperdown and Mar and Kellie, who opposed the Bill, as well as others who are patrons of the Society, were in the majority who voted against the exemption of veterinary surgeons from serving on juries. It has been frequently stated in our hearing that it was only owing to the Society having given up its veterinary examinations and its opposition to the Royal College, that the obtainment of the Act of Parliament became possible. This was not only an unfounded assertion, but it appeared to charge the Society with preventing such a measure being previously obtained. Only in this matter of the Act did we coincide with the correspondent, and our remarks had no reference to the Society's veterinary certificate examinations, which were alluded to by him as they were carried on within the last few years. We have no intention of discussing this subject now; the examinations no longer exist, and the profession will certainly be none the worse for their extinction.]

VETERINARY INSPECTORS IN IRELAND.

DEAR SIR,—Will you kindly inform me, if a non-qualified person can be appointed inspector under the Contagious Diseases Act?

I enclose an account of the proceedings of the Macroom (Co. Cork) Board of Guardians, held on the 7th inst., at which a person without any qualification whatever is placed in the position of "Veterinary Inspector."

Is there any clause in the Veterinary Surgeons Act to prevent occurrences like this? It is by no means an unusual thing in this country to appoint local "quacks" to that important position.

Truly yours,

Cork, *Jan. 13th.* JAS. W. H. ASHE, M.R.C.V.S.

"The Board proceeded to appoint an inspector under the Cattle Diseases (Ireland) Act and for the union.

Colonel Warren proposed Mr. James Ashe, V.S., Cork, and he was seconded by Captain Leader.

Mr. Cremen proposed, and Mr. John Lynch seconded the appointment of Denis Gleeson.

The names of several other applicants were proposed and seconded, but they were eventually withdrawn in favour of Mr. Gleeson.

Mr. B. M'Sweeny said Mr. Gleeson was formerly a farmer, and had considerable knowledge in the treatment of cattle. He was evicted not long since because he was not able to pay his rent. Every one of the other gentlemen that had been proposed had something to live on without the appointment except Mr. Gleeson, and he (Mr. M'Sweeny) asked Colonel Warren to withdraw the name of his candidate in favour of Mr. Gleeson.

Colonel Warren said he would not, because the Local Government Board would not sanction the appointment of any person not properly qualified. Mr. Ashe possessed the necessary qualification, which the other candidate did not.

Mr. O'Leary said Mr. Gleeson would become a burden upon the rates if he did not get the appointment. He was very reluctant to do that, however. He preferred honourable and useful employment, and he hoped the guardians would be unanimous in giving him the place. Mr. Gleeson was a most intelligent person in the care and cure of cattle, and had proved himself so in the locality in which he lived. He (Mr. O'Leary) believed that Colonel Warren's candidate's name could not be received, as according to the advertisement the personal attendance of applicant was necessary on the day of election according to the advertisement.

The Chairman said that was so.

Mr. Gleeson was then elected, no one dissenting except Colonel Warren.

[The election of the unqualified person alluded to appears to have been a politico-parochial job. If he has not been in continuous practice of veterinary surgery for five years previous to the passing of the Act, then he cannot be registered as an "existing practitioner," and Clause 17 will be applicable to his case. But it is not so much a matter for the Act, as for the Irish Veterinary Department to deal with. It is very disgraceful that such a selection should be allowed, and it is no less a hardship for the districts over which such men are placed. It is certainly an extraordinary notion that persons having no qualification whatever for such responsible and difficult functions should be appointed, in order to keep them out of the workhouse.]

ERRATA.

In the editorial addendum to the letter headed "Mr. Reynolds and the Veterinary Surgeons' Act," a misprint occurs at p. 73, line 24. Instead of "The present Act is a thousand per cent. better than the one they would have preferred," read "The present Act is a thousand per cent. better than the one he (Mr. Reynolds) would have preferred."

At p. 23, line 10, for "organs aching," read "organs acting."

Communications, Books, Journals, etc., Received.

Communications have been received from J. Darby, Rugby; T. Greaves, Manchester; Captain Russell, Grantham; W. H. Steel, A.V.D.; J. A. Nunn, A.V.D., Rawal Pindi; G. Kidney, Belfast; J. J. Sperring, Dublin; A. W. Hill, London; J. W. H. Ashe, Cork; F. Dun, London; G. Elphick, Newcastle-on-Tyne; "Nil Desperandum"; E. Decroix, Paris; T. Chambers, Dudley; J. Ferris, A.V.D., Athlone.

BOOKS AND PAMPHLETS: Report of the Commissioner of Agriculture (American) for 1881; *M. A. Zundel*, Les Dangers de la Trichinose; *E. Semmer, C. Siegen*, Maladies Infectieuses Consecutive aux Traumatismes; *D. Ellenberger*, Ueber die Physiologie der Haut, und uber Erkaltung; *L. Falck*, Das Fleisch; *F. A. Zurn*, Die Schmarotzer; Proceedings of the British National Veterinary Congress; *W. Dieckerhoff*, Die Pferdestaupe: *G. F. Hodgson*, On the Relations of Small-pox and Cow-pox; Bulletin de la Société Centrale de Médecin Vétérinaire.

JOURNALS, ETC.: *Breeders' Gazette; Journal of Comparative Medicine and Surgery; Chicago Medical Journal and Examiner; Repertorium der Thierheilkunde; Archiv für Wissenschaftliche und Practische Thierheilkunde; Archives Vétérinaires; American Veterinary Review; Recueil de Méd. Vétérinaire; Wochenschrift für Thierheilkunde und Viehzucht: La Presse Vétérinaire; Revue Vétérinaire; La Clinica Veterinaria; Annales de Méd. Vétérinaire; Live Stock Journal; Lancet; Medical Press and Circular; Edinburgh Medical Journal; Field; American Live Stock Journal.*

NEWSPAPERS: *Irish Sportsman; Sport; Manchester Guardian; Scotsman; Pall Mall Gazette; Christian World.*